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ABSTRACT

This journal of educational research contains five papers written by a group of internaticnal authors. The first is a study of change in professional attitudes of student teachers that investigated the nature and extent of the change in their professional attitudes, and compared sex differences. The second paper is a technical examination of the predictive powers of stepwise multiple regression as a tool for estimating the degree of success that can be expected of students in collegiate vocational programs. The third paper is a study in which second grade students were given the reward of time off with games and books for remaining in their seats. The number of teacher reprimands was compared in each case. The fourth paper describes a model of social and individual change which relates to teacher training in the consideration of educational objectives, diagnosis of and alteration of the situation, and resulting feedback. The fifth paper is a study of whether an informal sequential program of experiences in a school setting is more effective than in the home setting in fostering the development of number concepts. A chronicle of current research projects and information concerning the World Association for Educational Research are appended. (JN)

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A STUDY OF CHANGE IN PROFESSIONAL ATTITUDES OF STUDENT-TEACHERS

by

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Training is a pre-requisite to good teaching. Simultaneous with the change in social and educational phenomena the concept of teacher training and its aims and objectives have undergone a process of silent evolution during the past few decades. To be precise, the label has been changed from teacher training to teacher education which has a much broader connotation. Evidently enough, training a teacher is not like training a parrot, a dog or a horse. The use of the word *training* for teachers is not only in-appropriate but also derogatory. Now education of teachers aims to provide the new entrants to the profession a novel orientation with a change in outlook and attitude towards different components of the teaching profession accompanied with the proficiency and skill in handling the teaching situtation in class-room effectively and efficiently. KOTHARI Commission Report (1966, pp. 73-74) rightly laid stress on healthy attitude formation and development and suggested that 'time should also be found to orientate students' attitudes to the significance and the possibilities of the profession that they have chosen.' Teacher preparation programmes now increasingly lay emphasis on change of attitudes, values and belief systems of the prospective teachers. Hence, it seems worth-while to probe into the change in professional attitudes of student-teachers as a consequence of teacher-preparation programme undertaken by them.

Succinctly stated, the problem under investigation can be stated as : 'A study of change in the Professional Attitudes Student-Teachers'. The present investigation makes an attempt to identify the nature and

extent of change in professional attitudes of student-teachers as a result of undergoing a course of teacher-preparation of the duration of one academic year.

Objectives of the Study

Some important objectives of the present study are :
(i) To investigate the nature and extent of change in the professional attitudes of student-teachers of some selected secondary teacher-preparation institutions of Uttar Pradesh which are perhaps catalysed by the teacher-education programme, tutoring and teaching practice, provided by that particular institution during the one academic session of nine months ;
(ii) To make inter-institution and intra-institution comparisons in change of professional attitudes ; and
(iii) To study sex-wise differences in change of professional attitudes of the selected student-teachers.

Related Studies

Most of the studies in the field of teacher education aim at finding whether the attitudes of prospective and practising teachers are favourable or not. Few attempts have been made to find the change in the attitudes of prospective teachers in the desired or expected direction due to training. Hale (1954, pp. 102-4) found out little change in a wide range of attitudes assessed at the beginning and the end of a two-year course. Cox (1960, pp. 89-94) found that although the field experience of one group of pre-student teaching students did not increase their positive attitudes towards education it did change their attitudes measurably. Leton (1961, pp. 418-22) reported that attitudes towards children of elementary education students become significantly more favourable during a course in child development. Jacob (1964) found that modifications in attitudes were accomplished in the initial courses of professional education offered by the institution but not in student-teaching semesters. Newsome *et al.* (1965, pp. 319-23) found that student-teachers showed a significant decrease in consistency of ideas about education after they had completed student-teaching. Mazer (1969, pp. 116-20) reported

changes in attitude and personality of student-teachers interested in teaching disadvantaged youth. Studies conducted by LAUTZ (1964), BRIM (1956), LIPSCOMB (1966), CAMPBELL (1967), HOROWITZ (1968), MUUSS (1969), GREENE (1972) and BUTTS and RAUN (1973) though not conclusive are quite interesting and meaningful.

Not much research has been conducted in India in this rather neglected area. SRINIVASULU (1964), VERMA (1968), RAINA and RAINA (1968), DOSAJH (1970), KAKKAR (1970), RAINA (1976), and MEHROTRA (1973) did make some useful studies. The complete typescripts/manuscripts of these project reports are neither available for criticism and comments nor for study and scrutiny.

DESIGN AND STRATEGY

The present study did not intend to be a controlled experiment. It was, in a way, quasi-experimental in nature and had a pre-test and post-test design. Hopefully, it was a pseudo-experiment with teacher-preparation programme as a treatment.

The Teacher Attitudes Inventory (TAI) was administered twice, firstly in the beginning in July/August, 1973 and secondly in the end of the session in April/May, 1974. Thus it was tried to find out the nature and extent of change in professional attitudes of selected groups of student-teachers as a result of undergoing training on the basis of analysis of data collected on the TAI on the two occasions.

1. *Tool Used*

The TAI is a Likert-type attitude scale with 90 items, 43 favourable and 47 unfavourable developed and standardized by the author under a project financed by the National Council of Educational Research and Traning, New Delhi. It measures attitudes of respondents towards six professional components viz. (a) teaching profession, (b) classroom teaching, (c) child-centred practices, (d) educational process, (e) pupils, and (f) teachers. The marking of the response was to be done according to the code prescribed for which ranged from strongly agree (SA) to strongly disagree (SD). Checking *'strongly disagree'* in a favourable item was given the lowest score (zero) and vice-versa ; whereas checking *'strongly disagree'* in an unfavourable item was given the highest score (four) and vice-versa.

The weights were 4, 3, 2, 1, and 0. The maximum possible score was 360 and the minimum possible score was zero.

An attempt was made to restrict the study to about ten percent of the total population of B.Ed. student-teachers of Uttar Pradesh. The TAI was hence, administered twice in eleven colleges and in the end 648 common names of student-teachers were identified who had appeared in the pre-test as well as in the post-test. These common cases constituted the subjects for analysis to appraise the change in professional attitudes of student-teachers.

2. *Sample and Population*

There were about 100 secondary teacher-preparation institutions in Uttar Pradesh in 1973-74. The study was restricted to 11 randomly selected institutions which represented 6 universities or examining bodies in the State. Table 1.1 presents at a glance information about

TABLE 1.1

Name of institution, place of location, number of persons appearing in pre-test and post-test, and common cases

S. No.	Name of Institution	Place	Appeared		Common cases
			Pretest	Posttest	
1.	N.A.S. College	Meerut	107	101	60
2.	Degree College	Pratapgarh	131	121	48
3.	K.S.S. Mahavidyalaya	Faizabad	106	98	54
4.	T.D. College	Jaunpur	85	89	70
5.	N.R.E.C. College	Khurja	81	79	61
6.	D.S. College	Aligarh	118	112	49
7.	W.T. College Dayalbagh	Arga (1)	154	161	76
8.	R.B.S. College	Agra (2)	164	159	86
9.	K.P. Training College	Allahabad	93	86	47
10.	A.N.D. Mahila Mahavidyalaya	Kanpur	146	123	63
11.	Education Department, Banaras Hindu University	Varabasi	72	120	34
		Total	1257	1249	648

the selected institutions, the student-teachers who appeared in the pre-test and the post-test, and the common cases selected for study. Table 1.2 shows distribution of *648* selected common cases with

TABLE 1.2

Distribution of 648 cases on the variables of sex, age, & teaching experience

		No.	%
1. Sex	Male	311	48.00
	Female	337	52.00
	Total	648	100.00
2. Age	Less than 20 years	96	14.8
	21 to 30 years	519	80.0
	31 to 40 years	31	4.9
	Above 41 years	2	0.3
	Total	648	100.00
3. Teaching Experience	No experience	470	72.5
	Less than 3 years	103	15.9
	4 to 9 years	66	10.2
	10 to 15 years	6	0.9
	Above 16 years	3	0.5
	Total	648	100.00

respect to the variable of sex, age and teaching experience. A casual look at Table 1.1 shows that though the pre-test and post-test were taken by *1257* and *1249* persons respectively, only *648* common cases, a little more than 50 %, were found. This reveals how difficult it is to find comon cases in large number even when rigid controls are

not imposed. A perusal of Table 1.2 shows that except on the variable of sex, on other variables such as age and teaching experience, the distribution is neither fair nor even. This explains why sex-differences alone were studied and other variables were precluded from further deep probe.

3. *Data Collection and Data Analysis*

Formal permission was sought from the Principals of the concerned training institution for contacting the student-teachers in their institution for administration of the TAI. The respondents were contacted in groups. After a short introduction they were given instructions as to how to fill-out the TAI. They filled out the performa seeking information about them and recorded their responses in the answer-sheet of the TAI. As explained earlier the TAI was administered twice to all the B.Ed.-students of the selected 11 institutions of the Uttar Pradesh.

For identifying the change in professional attitudes of student-teachers as a consequence of undergoing a course of teacher-preparation some statistical measures such as Mean, Standard deviation and Standard Error of Mean and S.D. were calculated for the various sub-groups of student-teachers for scores on each attitude sub-scale as well as the total attitude score. For highlighting inter-institutional and intra-institutional differences, the mean-differences of different dichotomous groups were calculated for comparison. The significance of mean-differences was studied through the application of the 't' test.

Findings and their Interpretation

Table 1.3 presents at a glance details about the institution number, number of common cases, pre-test and post-test mean scores, mean scores, standard deviations and standard errors of means. Table 1.4 presents in a summary form information about the mean differences, 't' 's, degrees of freedom and interpretation of the observed values of 't'.

TABLE 1.3

Number of institutions, number of cases, means, standard deviations, & standard errors of means

Institution No.	N	MEAN		S.D.		SEM	
		T_1	T_2	T_1	T_2	T_1	T_2
1.	60	254.60	247.05	25.51	27.38	3.29	3.53
2.	48	242.92	239.83	25.90	35.23	3.74	5.08
3.	54	249.63	243.57	26.31	28.90	3.58	3.93
4.	70	240.30	229.11	26.89	42.24	3.21	5.05
5.	61	242.56	230.66	23.10	39.79	2.96	5.09
6.	49	243.10	235.24	42.14	30.75	6.02	4.39
7.	76	247.45	236.88	31.65	38.02	3.63	4.36
8.	86	251.45	256.29	31.12	33.38	3.36	3.60
9.	47	250.70	257.40	25.56	59.19	3.73	8.63
10.	63	255.73	239.29	25.52	26.02	3.21	3.28
11.	34	259.83	259.24	38.95	34.21	6.68	5.87
Total : 11	648	248.70	242.52	29.95	37.98	1.17	1.49

1. *Institution and Change in Professional Attitude:*

An inspection of Table 1.3 shows that in 2 out of 11 institutions the increase in mean attitude scores, though small, is in the expected direction. These are institutions No. 8 and 9. In 9 institutions the mean attitude scores have gone down. It may hence be surmised that the change in attitude scores is perhaps to some extent determined by the type of institution attended by a particular group. If the total group of 648 cases is taken as a whole even then there is decrease in the mean attitude score though the mean difference appears to be small i.e. 6.18.

A close and critical analysis of Table 1.4 indicates that the mean-differences in all cases except in the case of institution No. 5 and 9 are statistically non-significant at both .05 and .01 levels. Only in the case of institution No. 9 the mean-difference is statistically significant at both .05 and .01 levels and whereas in the case of institution No. 5 the mean-difference is statistically significant at .05 level only. The obtained results, hence, make it clear that the observed differences may be due to chance alone. This perhaps pinpoints to the need of

TABLE 1.4

Mean differences, standard errors of mean differences, t, degrees of freedom, and interpretation

Institution No.	M_D	SE_{MD}	t	df	Interpretation	
					.05	.01
1.	7.55	4.83	1.56	118	NS	NS
2.	3.09	6.31	0.49	94	NS	NS
3.	6.06	5.32	1.14	106	NS	NS
4.	11.19	5.98	1.87	138	NS	NS
5.	12.90	5.89	2.20	120	S	NS
6.	7.86	7.45	1.06	96	NS	NS
7.	10.57	5.67	1.86	150	NS	NS
8.	4.89	4.92	0.99	170	NS	NS
9.	6.70	9.40	0.71	92	NS	NS
10.	16.44	4.59	3.58	124	S	S
11.	0.58	8.89	0.07	66	NS	NS
Total : 11	6.18	1.89	3.23	1294	S	S

conducting rigorously controlled experimentation where intervening variables are properly controlled after careful identification. It is possible that variables such as socio-economic status, level of intelligence, level of motivation, level of aspiration, family background, age and other allied factors may be important determinants of change in professional attitudes. To arrive at dependable results, there is need to control certain variables and by keeping them constant to vary the experimental treatment and study its influence on change in professional attitudes of student-teachers.

It is possible that the observed differences in the opposite direction are due to defective sampling desisgn, lack of proper control on experimental treatment, and the disinterest of the respondents.

It is notable that the mean-difference in attitude scores of the total group (N = 648) is statistically significant at both .05 and .01 levels. This should cause concern to all teacher-educators. This establishes that the observed decreasc is neither marginal nor accidental but is perhaps real. Healthy attitudes, it is known, go a long way in strengthening the teaching profession and in promoting better and

efficient learning. There is need to devise programmes of teacher preparation which may develop favourable and healthy attitudes in propective teachers as it is well-said : 'As is the teacher, so is the nation'.

2. *Different Areas and Change in Professional Attitudes*

In order to further probe into the pattern of attitude changes in different areas, the mean scores on six different sub-scales of the Teacher Attitude Inventory were analyzed. The Mean-differences on pre-test and post-test scores were compared and the significance of the obtained results was tested through the application of the 't' test. Table 1.5 and 1.6 present the analyzed date in a summary form.

A cautious look at Tables 1.5 and 1.6 indicates many interesting things. The general pattern of decrease in mean-scores in the case of atleast eight institutions is maintained with some fluctuations. To be precise, on sub-scale I, the increase is revealed only by institution Nos. 8, 9 and 11 in mean attitude score. On sub-scale II, all institutions show a down-ward trend. On sub-scale III institution Nos. 2, 6, 8 and 9 show an increase in the positive direction whereas other seven institutions maintain the downward trend. On sub-scale IV, institutions Nos. 1, 2, 6, 7, and 8 reveal increase whereas other six institutions show the decline in mean-scores. On sub-scales V and VI, excluding institution Nos. 3, 8, and 9 all other eight institutions show decrease in mean-scores. When the total group (N = 648) is taken, on all the sub-scales excluding sub-scale III the mean-differences are in the opposite direction though their values are small. This analysis helps in making a surmise that the teacher-preparation programmes are perhaps failing in changing the professional attitudes of student-teachers and their impact is doubtful and dubious.

An examination of Table 1.6 indicates that on sub-scale I, the mean-differences of 9 institutions are statistically non-significant at both .05 = and .01 levels. In the case of institution No. 7 the observed difference is statistically significant at both .05 and .01 levels. On sub-scale II, the mean-differences of seven institutions are statistically non-significant. Only in the case of institution Nos. 2, 4, and 10 they are statistically significant at both .05 and .01 levels and in the case of institution No. 7 significant at .05 level only. On

TABLE 1.5

Number of institutions, number of cases, means and standard errors of means on six different sub-scales of the teacher attitude inventory

Institution No.	N	MEAN											
		I		II		III		IV		V		VI	
		T_1	T_2	T_1	T_2	T_2	T_1	T_1	T_2	T_1	T_2	T_1	T_2
1.	60	41.13	40.62	40.63	38.47	46.50	45.82	45.77	46.02	39.32	37.82	41.25	38.55
2.	48	38.27	37.83	40.73	35.90	43.85	45.88	43.19	43.83	38.02	36.94	39.56	39.23
3.	54	43.00	40.11	39.78	37.76	44.37	44.31	44.44	40.13	37.74	38.56	40.19	42.44
4.	70	39.50	37.91	38.97	36.14	43.27	42.16	41.67	41.43	37.13	34.3[illegible]	39.14	36.89
5.	61	39.31	36.59	38.21	36.66	45.43	43.20	44.57	43.61	37.52	34.28	37.69	36.34
6.	49	39.71	36.65	39.20	37.73	44.63	45.33	44.33	44.84	37.53	34.45	37.49	36.35
7.	76	40.53	37.14	39.34	37.01	44.92	44.43	44.16	44.24	39.05	36.37	39.39	37.66
8.	86	41.21	43.37	39.92	38.22	45.60	47.38	45.65	47.76	37.93	39.56	40.27	40.59
9.	47	39.19	40.02	39.32	38.74	47.21	47.62	46.33	44.13	39.28	40.34	38.96	40.81
10.	63	40.48	36.59	41.46	38.33	45.75	45.29	45.98	45.21	39.89	36.57	41.17	37.11
11.	34	42.53	42.71	41.24	40.29	46.79	46.18	48.00	47.15	41.03	40.62	44.21	41.71
Total : 11	648	40.42	39.02	39.82	37.63	45.22	45.16	44.79	44.38	38.47	37.11	39.82	38.72

TABLE 1.5 (Continued)

Institution No.	N	SEM M											
		I		II		III		IV		V		VI	
		T_1	T_2	T_1	T_2	T_1	T_2	T_1	T_2	T_1	T_2	T_1	T_2
1.	60	1.00	1.15	.82	.76	.80	.67	.83	.86	.75	.80	.82	.87
2.	48	1.56	1.70	.74	.85	.91	.92	.94	1.28	.97	1.03	1.09	1.22
3.	54	1.24	1.09	.83	.84	1.35	.77	.76	1.09	.74	.86	.93	.97
4.	70	1.17	.78	.22	.81	.74	.95	.82	1.02	.74	1.05	[illegible]	1.03
5.	61	1.07	1.19	.80	.93	.64	.66	.79	1.05	1.27	1.00	.71	1.00
6.	49	1.06	1.64	.99	.93	.97	.84	1.07	1.10	1.19	.63	1.39	1.06
7.	76	.92	1.08	.77	.66	.71	.86	.78	.94	.70	.80	.85	.99
8.	86	1.10	.93	.72	.73	.71	.63	.75	.63	.73	.67	.81	.75
9.	47	1.33	1.34	.83	.79	.84	.80	.93	.90	.91	.86	.96	1.17
10.	63	1.04	1.04	.75	.70	.77	.74	.84	.88	.77	.69	.68	.85
11.	34	1.60	1.69	1.31	1.25	.71	1.32	1.20	1.18	1.05	1.16	1.15	1.44
Total : 11	648	.37	.37	.23	.24	.25	.24	.26	.30	.27	.27	.28	.31

N.B. : Name of Institutions, according to Sl. No. 1-11 are as given in Table 1.1

TABLE 1.6

Mean differences, standard errors of mean-difference, t, degrees of freedom and interpretation

Institution No.							SE MD					
	I	II	III	IV	V	VI	I	II	III	IV	V	VI
1.	.51	2.16	.68	.25	1.5	2.7	1.52	1.12	1.04	1.20	1.20	1.20
2.	.44	4.83	2.03	.64	1.08	.35	2.31	1.13	1.29	1.59	4.01	1.64
3.	2.89	2.02	.06	4.31	.83	2.25	1.65	1.18	1.55	1.35	1.13	1.34
4	1.54	2.83	1.11	.24	2.82	2.25	1.41	.84	1.20	1.31	1.28	1.29
5.	2.72	1.55	2.23	.96	3.24	1.35	1.60	1.23	.92	1.31	1.62	1.27
6.	3.06	1.47	.70	1.00	3.08	1.14	1.95	1.36	1.28	1.53	1.35	1.75
7.	3.39	2.33	.49	.08	2.68	1.73	1.42	1.01	1.12	1.22	1.06	1.30
8.	2.16	1.7	1.78	2.11	1.63	.32	1.44	1.03	.95	.98	.99	1.10
9.	.83	.58	.41	2.40	1.06	1.85	1.89	1.15	1.16	1.29	1.25	1.51
10.	3.89	3.13	.46	.77	3.32	4.06	1.47	1.03	1.07	1.22	1.03	1.09
11.	.18	.95	.61	.85	.41	2.50	2.33	1.61	2.23	1.68	1.56	1.84
Total : 11	1.40	2.19	.06	.41	1.36	1.10	.50	.31	.33	.38	.3.	.40

TABLE 1.6 (Continued)

Institution No.	t						df	Interpretation					
	I	II	III	IV	V	VI		I	II	III	IV	V	VI
1.	0.34	1.93	0.65	0.21	1.25	2.25	118	NS	NS	NS	NS	NS	S (.05)
2.	0.19	4.27	1.57	0.40	0.27	0.20	94	NS	S (.05&.01)	NS	NS	NS	NS
3.	1.75	1.71	0.04	3.24	0.73	1.68	106	NS	NS	NS	S (.05&.01)	NS	NS
4.	0.18	3.37	0.93	0.18	2.20	1.74	138	NS	S (.05&.01)	NS	NS	S (.05)	NS
5.	1.70	1.26	2.42	0.37	2.00	1.06	120	NS	NS	S (.05)	NS	S (.05)	NS
6.	1.57	1.08	0.55	0.65	2.28	0.65	96	NS	NS	NS	NS	S (.05)	NS
7.	2.39	2.31	0.44	0.07	2.53	1.53	150	S (.05)	S (.05)	NS	NS	S (.05)	NS
8.	1.50	1.65	1.87	2.15	1.65	0.29	170	NS	NS	NS	S (.05)	NS	NS
9.	0.44	0.50	0.35	1.86	0.85	1.23	92	NS	NS	NS	NS	NS	NS
10.	2.65	3.04	0.43	0.63	3.22	3.72	124	S (.05&.01)	S (.05&.01)	NS	NS	S (.05&.01)	S (.05&.01)
11.	0.07	0.52	0.27	0.51	0.26	1.36	66	NS	NS	NS	NS	NS	NS
Total : 11	2.80	7.06	0.18	1.07	3.67	2.75	1294	S (.05&.01)	S (.05&.01)	NS	NS	S (.05&.01)	S (.05&.01)

TABLE 1.6 (Continued)

Institution No.	t						df	Interpretation					
	I	II	III	IV	V	VI		I	II	III	IV	V	VI
1.	0.34	1.93	0.65	0.21	1.25	2.25	118	NS	NS	NS	NS	NS	S (.05)
2.	0.19	4.27	1.57	0.40	0.27	0.20	94	NS	S (.05&.01)	NS	NS	NS	NS
3.	1.75	1.71	0.04	3.24	0.73	1.68	106	NS	NS	NS	S (.05&.01)	NS	NS
4.	0.18	3.37	0.93	0.18	2.20	1.74	138	NS	S (.05&.01)	NS	NS	S (.05)	NS
5.	1.70	1.26	2.42	0.37	2.00	1.06	120	NS	NS	S (.05)	NS	S (.05)	NS
6.	1.57	1.08	0.55	0.65	2.28	0.65	96	NS	NS	NS	NS	S (.05)	NS
7.	2.39	2.31	0.44	0.07	2.53	1.33	150	S (.05)	S (.05)	NS	NS	S (.05)	NS
8.	1.50	1.65	1.87	2.15	1.65	0.29	170	NS	NS	NS	S (.05)	NS	NS
9.	0.44	0.50	0.35	1.86	0.85	1.23	92	NS	NS	NS	NS	NS	NS
10.	2.65	3.04	0.43	0.63	3.22	3.72	124	S (.05&.01)	S (.05&.01)	NS	NS	S (.05&.01)	S (.05&.01)
11.	0.07	0.52	0.27	0.51	0.26	1.36	66	NS	NS	NS	NS	NS	NS
Total : 11	2.80	7.06	0.18	1.07	3.67	2.75	1294	S (.05&.01)	S (.05&.01)	NS	NS	S (.05&.01)	S (.05&.01)

teacher-educators. This worry should attract the attention of people who matter because the decreases or gains are mostly found to be statistically non-significant on testing which denotes that the observed differences are either marginal of accidental or mere chance occurences. The causes of this sad state of affairs need be probed and looked into seriously.

3. *Sex and Change in Professional Attitudes*

An attempt was made to find out whether the variable of sex has any role in making the differences in mean attitude scores of pre-test and post-test of 9 co-educational institutions. Table 1.7 and 1.8 presents in a summary form the results of this data-analysis.

Table 1.7 shows that in the case of male student-teachers all institutions except institution Nos. 2, 7 and 8 show a decrease in the opposite direction though the range of decrease is varied and small. In the case of female student-teachers all institutions except institution Nos. 5 and 9 indicate a decrease in mean professional attitude scores. Table 1.8 makes it clear that though at the time of the pre-test and post-test the mean attitude scores of male and female student-teachers differ but the mean-differences are all except one statistically non-significant at both the levels. Only in the case of institution No. 6 the mean-difference in the post-test between male and female student-teachers is statistically significant at .05 level alone. Even when the group as a whole is taken into consideration, the mean-differences are found to be statistically non-significant. This helps in making a conclusion that differences in mean attitude scores are only marginal or accidental or due to chance in almost all cases except one. This finding should impel teacher-educators to think of ways and means of strengthening courses of teacher-preparation so that desirable and favourable paterns of attitudes are formed, in male and female student-teachers during the period of training.

To sum up, the major findings of the present study are :

1. The mean-attitude scores, as a general rule, are found to decrease in place of improving at the end of the training programme.
2. The one-year course of teacher preparation programme as run by different institutions affiliated to the various universities and examining bodies of Uttar Pradesh perhaps does not make an attempt

TABLE 17

Number of institutions, number of males and females, means and standard errors of means

Institution No.	N_M	M_M		N_F	M_F		SE_{MM}		SE_{Mf}	
		T_1	T_2		T_1	T_1	T_2	T_2	T_1	T_2
1.	35	253.00	250.08	25	255.74	244.89	5.06	5.08	4.33	4.81
2.	31	242.97	245.06	17	242.82	230.35	4.71	6.62	6.15	7.12
3.	27	253.85	244.06	27	245.38	243.11	4.70	5.11	5.41	5.96
4.	49	243.33	238.61	21	233.24	218.62	3.83	5.56	5.59	10.35
5.	39	246.51	234.79	22	238.32	223.32	3.77	6.15	4.56	8.67
6.	35	250.20	235.83	14	225.36	233.79	6.34	5.35	9.41	7.49
7.	64	249.22	257.98	22	257.82	252.73	3.89	3.95	6.29	5.78
8.	14	244.64	261.36	33	253.27	246.64	4.43	8.53	4.90	5.04
9.	17	267.29	259.35	17	252.35	257.60	7.58	8.43	10.72	11.46
Total : 9	311	248.91	245.42	198	246.72	244.59	1.75	2.02	2.11	2.53

TABLE 1.8

Mean-differences of males and females, standard errors of mean differences, degrees of freedom, t, and interpretation

Institution No.	$MD_{(M-F)}$		$SE_{MD(M-F)}$		df	t		Interpretation	
	T_1	T_2	T_1	T_2		T_1	T_2	T_1	T_2
1.	2.74	5.19	6.66	7.00	58	0.41	0.74	NS	NS
2.	0.15	14.71	7.75	9.72	46	0.02	1.51	NS	NS
3.	8.52	0.93	7.17	7.35	52	1.19	0.12	NS	NS
4.	10.09	14.99	6.78	11.75	68	1.49	1.28	NS	NS
5.	8.19	11.47	5.92	10.63	59	1.38	1.08	NS	NS
6.	24.84	2.04	11.35	9.20	47	2.19	0.22	S (.05)	NS
7.	8.76	5.25	7.40	7.00	84	1.18	0.75	NS	NS
8.	8.63	14.72	6.61	9.91	45	1.31	1.49	NS	NS
9.	14.49	2.35	13.13	14.23	32	1.14	0.17	NS	NS
Total : 9	2.19	0.83	2.74	3.23	507	0.80	0.26	NS	NS

to develop positive, healthy, and favourable professional attitudes in proespective teachers. However, if it makes some attempt, it can be labelled only as unsuccessful and fruitless.

3. The mean attitude scores of admission-seekers to different institutions differ and their mean attitude scores either go up or go down as a consequence of the teacher-preparation programme run by a particular institution.

4. The mean attitude scores on different sub-scales of the TAI differ sex-wise and institution-wise though mostly the observed mean-differences are statistically non-significant which shows that they are either marginal or accidental or due to sheer chance alone.

5. Sex is neither a determinant nor a differential of change in professional attitudes of student-teachers as a consequence of the teacher-preparation programme.

Discussion of Results

The findings of the study have a deeper meaning and message. The question is why the obtained results are in the opposite direction and statistically non-significant in most cases.

The answer is not easy to seek. It is apprehended that one of the main objective of the teacher-preparation programme i.e. to develop positive, favourable, and healthy professional attitudes is being neglected. It is imperative that some steps should be taken to improve the sad state of things in the field of teacher-education so that prospective teachers may develop healthy professional attitudes.

Studies by Leton (1961), Jacob (1964), Cummins (1966), Gilbink (1967), and others are quite relevant. Studies by Male (1954) and Walberg (1966) are meaningful as they raise a question : 'Are teachers' colleges wasting their time ?' Hale (1954) in an exhausitive study of student in teachers colleges in New South Wales found little change in a wide range of attitudes assessed at the beginning and end of a two-year course. Mehrotra (1973) in his study found that the attitude scores of teacher-trainees both of full-time and correspondence course (B.Ed. students) of Central Institute of Education, Delhi declined instead of improving as the teacher-preparation programme proceeded. He has pinpointed the need for probing deep into the causes of this malaise.

The results of this study hence rightly raise a pointer. What is wrong with the training institutions in Uttar Pradesh in particular and in India in general ? How can training institutions be made better instruments of forming and developing desirable, healthy and favourable professional attitudes in student-teachers ?

There is need to do some fresh thinking on introducing reforms in teacher education and strengthening programmes of teacher-preparation. It needs little reiteration that content and method in teacher education alike require experimentation and innovating research. Teacher education hence should welcome a variety of experimentation in many fields.

Suggestions for further Research

The present study has pinpointed the need for research in some important areas. Some such areas are enumerated here :

1. Factor-analytic studies can be conducted to determine factorial compositions of teacher attitudes and to discover the various underlying constructs of professional attitudes.
2. Attitudes of teachers at various levels viz. primary, secondary, college, and university can be studied to determine whether paterns of teacher attitudes vary at different levels.
3. Longitudinal studies can be taken up to study change in attitudes of teachers over a long period of time under different types of training, working, or service conditions.
4. Cross-cultural studies of attitudes of teachers in India and some selected foreign countries may be attempted. Transnational research in the field of teacher attitudes can pay rich dividends.
5. Impact of teacher attitudes on teacher behaviour in the class-room and student behaviour may be investigated.
6. Experimental studies of change in professional attitudes of teachers may be undertaken. These should be rigorously controlled experiments with rigid experimental treatments and specified controls.
7. Studies of changes in the attitudes of teachers towards the courses under controlled conditions need be made to determine the effectiveness and efficiency of programmes and institutions running these programmes.
8. A number of correlational studies can be conducted to find out

the nature and pattern of relationship between teacher attitudes and a variety of other variable such as level of intelligence, level of aspiration, socio-economic status, socio-metric status, personal problems, job-satisfaction, and so on.

9. Further on, relationship between teacher attitudes and other selected variables may be cautiously analyzed to find out different regression equations for making prediction studies possible in this rather neglected area of teacher attitudes.

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SUMMARY

The main objectives of the study are (1) to investigate the nature and extent of change in the professional attitudes of student-teachers of some selected secondary teacher preparation institutions of Uttar Pradesh (India) ; (2) to make inter-institution and intra-institution comparisons in change of professional attitudes ; and (3) to study sex-wise differences in change of professional attitudes of the selected student-teachers.

The study has used a pre-test and post-test design and is a pseudo-experiment with teacher preparation programme as a treatment. There was no control group and the Teacher Attitude Inventory (TAI) alone was used as the data-collecting instrument.

The sample was drawn from 11 Colleges located in the different parts of Uttar Pradesh and included 311 (48 %) male and 337 (52 %) female student-teachers.

The major findings of the study are : (1) The mean-attitude scores, as a general rule, are found to decrease in place of improving at the end of the training programme ; (2) The one year course of teacher-preparation as run by different institutions perhaps does not make an attempt to develop positive, healthy and favourable professional attitudes in prospective teachers ; (3) The mean-attitude scores of student-teachers differ institution-wise and they either go up or go down as a consequence of the teacher-preparation programma offered by the institution ; and (4) Sex is neither a determinant nor a differential of change in professional attitudes of student-teachers which results from a training programme.

The paper has indicated some areas of future research interest viz. (1) Studies on attitude patterns of practising teachers of different levels ; (2) Longitudinal studies of attitude change under different types of training-working or service conditions ; (3) Studies of impact of teacher attitudes on classroom behaviour of students and teachers ; and (4) Experimental studies on attitude and behaviour modification of classroom teachers.

RÉSUMÉ

Une étude du changement des attitudes professionnelles des étudiants-enseignants.

Les objectifs principaux de l'étude sont (1) faire une enquête au sujet de la matière et de l'extension du changement des attitudes professionnelles des

étudiants-enseignants de quelques institutions secondaires sélectées de préparation à l'enseignement de l'Uttar Pradesh (India) ; (2) faire des comparaisons inter-institutions et intra-institution, du changements des attitudes professionnelles, et (3) étudier des différences, selon les sexes, des changements des attitudes professionnelles parmi les étudiants-enseignants sélectionnés.

L'étude a utilisé un plan pré-test et un plan post-test et constitue une pseudo-expérience avec le programme de préparation de l'enseignant comme traitement. Il n'y avait pas de groupe de contrôle et seul le Teacher Attitude Inventory (TAI) a été utilisé comme instrument de collection des data.

Le groupe « échantillon » a été pris dans 11 collèges, situés dans les différentes parties de l'Uttar Pradesh, et comprenait 311 (48 %) d'étudiants-enseignants masculins et 337 (52 %) d'étudiants-enseignants féminins.

Les résultats principaux de l'Étude sont : (1) Les scores d'attitude moyenne, comme règle générale, ont été trouvés en décroissance au lieu de s'améliorer, à la fin du programme d'entraînement. (2) Le cours d'un ans de préparation à l'enseignement, comme il est pratiqué par plusieurs instituts, ne semble pas faire un essai afin de développer des attitudes professionnelles positives saines et favorables chez les futurs enseignants. (3) Les scores moyennes d'attitude des étudiants-enseignants diffèrent selon les instituts et ils montent ou descendent comme conséquence du programme de préparation à l'enseignement offert par l'institut. (4) Le sexe n'est ni déterminant ni différentiel du changement des attitudes des étudiants-enseignants résultant d'un programme d'entraînement.

L'article à déterminé certains domaines d'intérêt pour une recherche future. p.e. (1) des études sur des modèles d'attitudes chez les enseignants en fonction, de différents niveau ; (2) des études longitudinales du changement des attitudes dans différents types de conditions d'entraînement, de pratique, de commodités ; (3) des études sur l'impact des attitudes de l'enseignant sur le comportement en classe des élèves et des enseignants et (4) des études expérimentales sur la modification de l'attitude et du comportement des enseignants en classe.

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THE RELATIONSHIPS OF APTITUDE SCORES AND HIGH SCHOOL PERFORMANCE TO SUCCESS IN VOCATIONAL-TECHNICAL COLLEGIATE PROGRAMS *

by

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Due to increasing enrollments and growing emphasis in vocational education, it is becoming increasingly necessary for college counselors and administrators to use objective aptitude tests to select, place and counsel prospective students in vocational-technical collegiate programs. One of the most popular and widely used vocationally related aptitude tests in the General Aptitude Test Battery [1] (GATB). This report is designed to provide descriptive information about the GATB when used in the vocational-technical college setting and to illustrate relationships to, and use for predicting school performance in the vocational-technical areas. The GATB measures the following nine aptitudes :

G – General Learning Ability (intelligence)
V – Verbal Aptitude
N – Numerical Aptitude
S – Special Aptitude

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P – Form Perception
Q – Clerical Perception
K – Motor Coordination
F – Finger Dexterity
M – Manual Dexterity

Purpose of the Study

1. To determine the extent of relationships between GATB aptitudes and college success in different vocational-technical college programs.
2. To determine if GATB aptitudes coupled with high school grades adequately predict student performance in vocational-technical programs.
3. To determine if there are significant differences in the aptitudes and abilities of students enrolled in various and different vocational-technical programs.

Sampling Procedures

Cooperation was obtained from the technical divisions of a fully accredited Michigan college[1] for the purpose of conducting test research studies with the GATB. A total of 618 students, representing ten different programs or curriculum areas, were tested with the GATB during the first quarter of a six-quarter technical program from October, 1967, to February, 1969. Two years later at the end of the six-quarters program, criteria data and accumulated grade point averages (GPA's) were collected for each student tested. Table I shows sample size, male/female representation, minority/non-minority group representation, and ranges in years for age and length of formal education for each curriculum area studied.

1. The authors appreciate the cooperation of Ferris State College for their participation in this project.

TABLE I

Curriculum Size, Sex, Race, Age and Education

Curriculum	N	Sex		Race		Age	Education
		M	F	N	NM		
Architectural Drafting	72	70	2	2	70	18-23	12-15
Automotive Service	67	67	0	0	67	18-23	12-15
Commercial Art	78	31	47	3	75	18-24	12-15
Cosmetology	53	1	52	0	53	17-20	12-13
Heavy Equipment and Diesel Repair	56	56	0	0	56	18-26	12-14
Machine Tool	57	57	0	1	56	18-22	12-19
Technical Drafting	49	49	0	0	49	18-29	9-14
Dental Assistant	87	0	87	0	87	18-21	12-13
Dental Hygiene	37	0	37	0	37	18-26	12-15
Medical Assistant	62	0	62	0	62	18-21	12-13
	618	331	287	6	612		

In only one program, Dental Hygiene, were the students preselected or prescreened before admission into the program. Admission into Dental Hygiene is determined by a faculty committee which selected candidates after detailed study of academic backgrounds, evaluation of personal interviews, and performance on the Dental Hygiene Aptitude Test.

STATISTICAL TREATMENT

Stepwise Multiple Regression (as written in the *Statistical Package for the Social Sciences* (SPSS) computer package) was used to predict college GPA's from GATB aptitudes and high school grades for each of the ten programs studied. Stepwise Multiple Regression derives the best possible combination of predictor or independent variables and allows these independent variables to be added to the

prediction equation one at a time, or 'step by step,' in order to predict the criteria or dependent variable.

In this study, GATB aptitudes and high school grades were the independent variables, and college GPA was the dependent variable.

The first step in stepwise regression is to choose a single independent variable which is the best predictor. The second independent variable added to the regression equation is the one which provides the best prediction in conjunction with the first chosen variable. Independent variables are then added step by step until a desired number of variables have been included in the regression, or until there are no other variables that make a significant contribution to the prediction.

Two statistical elements must be considered before an independent variable is added to the regression. The first statistic is an F ratio. If this is too small, a particular independent variable will not enter the regression. A large F ratio indicates that the variable significantly reduces the variance of the regression coefficient, thereby increasing the multiple R.

The second statistic to be considered is called the tolerance, T, which is the partial correlation between the independent variable and the dependent variable, partialling out the influence of the other independent variables in the equation. If the T is too small, then that particular independent variable will not enter the regression. A large T indicates that a new dimension is being added to the regression equation. For this analysis the F was set at .01, the T at .001.

As each independent variable enters the equation, the computer printout gives the multiple R which is the simple correlation between the predicted values and the actual values of the dependent variable ; the R-square value, which is the proportion of the variance in the dependent variable accounted for by the regression equation ; and, the standard error, which is the standard deviation of the residual. Since the residual is the difference between the predicted and actual values of the dependent variable, the standard error is the average error in prediction.

When applying the weights derived from stepwise regression to a prediction problem the Beta (B) weights for each independent variable are used with the constant to predict the dependent variable.

These B weights are used with raw data (scores) only. The value of B should always be interpreted in conjunction with its standard error (S) in the form B + S. The accuracy of B is defined by the confidence interval established by the size S. If normalized or standard scores are used, Beta weights are used without the constant.

Pearson Product Moment Correlations (r) between the independent variables (GATB scores and high school GPA) and the dependent variable (college GPA) were also computed. Another library program called *Constat* was used to compute Student *t* tests between the GATB aptitudes for each of the programs. Only orthogonal comparisons were analyzed so as to insure independence of observation.

Results

Table II (see appendix) shows, for each of the ten programs, the step at which each independent variable entered the regression equation; the corresponding F and T values; the step-by-step development of the multiple R; the standard error; the R-square; the change in R-square; Beta weights, B weights and corresponding standard errors; and, the mean, standard deviation, and the simple correlation (r) to college GPA for each independent variable.

Since high school grades are generally the best single predictors of college success, high school GPA was entered into the regression on the first step regardless of F and T values. The regression was terminated at step 8 in Heavy Equipment and Diesel Repair, step 9 in Dental Assistant, step 7 in Dental Hygiene and step 9 in Medical Assistant because of low F values. The highest obtained multiple R was reached in the Medical Assistant program and the lowest multiple R is in the Automotive Service program. The highest standard error is also in the Automotive Service program, while the lowest standard error is in Cosmetology. The highest R-square is in the Medical Assistant program; the lowest, in Automotive Service. For each program the multiple R, standard error, and R-square do not change greatly after step 5 or 6.

Table II indicates that students in Dental Hygiene had the highest mean GATB scores (except for aptitude S). Students in Architectural Drafting, Automotive Service, Commercial Art and Technical Drafting had higher S scores. Dental Hygiene students had far better high

school grades and better college GPA's than students in other programs.

Table II illustrates correlations with college GPA. High School grades correlated significantly to college GPA in all programs except Automotive Service. There were no significant correlations in Auto Service. None of the GATB aptitudes correlated significantly in Technical Drafting and Dental Hygiene. Aptitudes F, M and P did not correlate significantly to college GPA in any of the programs. All of the significant correlations indicated in Table II were positive.

As previously mentioned, orthogonal comparisons were employed to insure independence of observations. Seven orthogonal comparisons were identified and Student *t* tests were computed for each aptitude as shown in Table III.

Asterisks indicate which *t* values show significant differences between aptitude mean scores for each paired comparison. For example, students in Dental Hygiene scored significantly higher than students in all of the other nine programs combined, on all aptitudes except S. In comparison 2, Dental Assistants had significantly higher S scores than did the Medical Assistants. Commercial artists did better on S than did the Dental and Medical Assistants combined. However, the *t* values for N, P and Q are negative in comparison 3, thus means for these aptitudes appear to be significantly higher for Dental and Medical Assistants.

In comparison 4, there are no significant differences between Architectural and Technical Drafting students. Comparison 5 shows that Auto Service students had significantly higher G, V, N, P and Q scores than students in Heavy Equipment and Diesel Repair. The *t* tests in comparison 6 reveal that the combined sample of Architectural and Technical Drafting students scored better on aptitudes G, N, S and P than did students in the combined samples of Auto Service and Heavy Equipment and Diesel Repair. Comparison 7 reveals that Machine Tool students scored significantly higher on aptitudes G, N and S than students in Cosmetology. Conversely, Cosmetology students scored higher on Q, K and F.

TABLE III

Orthogonal Comparisons and Student t Tests

	Comparison 1	N	Comparison 2	N	Comparison 3	N	Comparison 4	N	Comparison 5	N	Comparison 6	N	Comparison 7	N
	Dental Hygiene	37	Assistant Dental	887	Commercial Art	78	Architectural Drafting	72	Auto. Serv.	67	Arch. & Tech. Drafting	121	Cosmetology	53
	Nine Other Programs	581	Assistant Medical	62	Dental & Med. Asst.	149	Technical Drafting	49	Heavy Equipment	56	Auto Serv. & Heavy Equipment	123	Machine Tool	57
G	5.27*		.65		−.67		.13		2.59*		3.64*		−1.99*	
V	7.20*		−1.83		−.85		.45		3.25*		1.58		1.87	
N	5.04*		− .82		−3.49*		.85		2.44*		3.00*		−3.08*	
S	.83		2.08*		5.65*		.27		1.71		5.26*		−2.39−	
P	4.13*		.40		−2.45*		1.66		2.34*		3.50*		− .31	
Q	5.40*		− .33		−2.45*		.67		2.43*		1.71		2.73*	
K	3.01*		−1.42		−1.11		.62		.11		.34		2.06*	
F	3.13*		1.45		.14		−1.45		−.91		1.93		2.00*	
M	5.63*		1.14		.66		1.41		−1.62		1.46		− .25	

* Significant at the $\alpha = .05$ level.

CONCLUSIONS

Due to the relatively high correlations between college GPA and high school GPA, a basic conclusion can be made: In most cases, the factors that contribute to high grades in high school also contribute to high grades, or success, in vocational-technical programs at the college level. Much would be revealed if further research was performed to see which factors in college GPA (i.e., specific courses) correlate to factors incorporated in high school grades. This would also provide some evidence relative to the contribution of technical or non-technical courses as these relate to success in vocational collegiate programs.

A review of the means and correlations for Architectural and Technical Drafting, indicate that the two drafting programs have the highest mean score or aptitude S, as might be expected. However, aptitude S did not correlate with success in these two programs. It is apparent that drafting students have a high spatial aptitude, even though there is no relationship between the spatial aptitudes and success in drafting. Apparently, both good and poor drafting students score well on S.

In Auto Service none of the aptitudes or high school GPA correlate with success in college; therefore, other factors such as prior training, work experience, interest, and other variables should be investigated for respective relationships to success in this program. In the Dental Hygiene program, only high school GPA correlated with success in college. Despite this fact, Dental Hygiene students have higher aptitude scores (with the exception of S) than students in other programs. Based on high aptitude scores, the Dental Hygiene students seem to have the greatest potential to succeed in many different occupational and curriculum areas. This may be due to the fact that these students were prescreened.

Stepwise Multiple Regression offered best prediction results in Architectural Drafting, Cosmetology and Medical Assistance. In these programs the final multiple R and R-square was highest; the standard error, lowest. The final R-square for Medical Assistants, for example, is .45. This means that 45 per cent of the variance in college grades is accounted for by high school grades and GATB aptitudes. Again it is recommended that other variables such as

motivation, interest and prior experience be quantified and used to predict success.

The standard error of prediction (one standard deviation of the residual between the actual and predicted values) is actually the average error in total prediction. Therefore selection and placement decisions would be more accurate if the errors involved in predicting high grades, low grades and average grades was known. The average error in total prediction gives little information about a single prediction. However, efforts should be made to reduce this average error, since it does provide a global index of accuracy. This is difficult because, as with all regression problems, both true variance and error variance are maximized in obtaining the best possible predictions. It is always necessary, therefore, to cross validate. Cross validation produces shrinkage which technically is the prediction of true variance less error variance. Shrinkage results in a slightly lower multiple R and is particularly prevalent in stepwise regression.

The regression equation was least effective in predicting success in the Automotive Service program. The R and R-square are lowest in this program and the standard error is highest.

The multiple R, R-square and standard error all remain relatively stable after the 4th or 5th step. Therefore, this stepwise procedure could be cut short to include only the first four or five variables entered into the equation. The most relevant factors contributing to success can thus be discovered.

In order to examine differences in aptitudes of the students in these ten different college programs, seven orthogonal comparisons were reviewed. As noted before, Dental Hygiene students have shown in comparison 1 of Table III to have stronger aptitudes than students in the other programs. There appears to be little difference in the aptitudes for Dental and Medical Assistants. This fact can be assumed from the similarity of the course content and requirements.

From comparison 3, it can be concluded that Commercial Art students have greater spatial aptitudes but weaker perceptual aptitudes, than do Medical and Dental Assistant students. A similar situation exists between Cosmetologists and Machine Tool students. Machine Tool students perform better than Cosmetology students on Spacial, S, but less effectively on Clerical Perception, Q. The reasons behind such scoring differences on the spatial and perceptual aptitudes on

the GATB could explain much about the determinents for success in these programs. This comparison also points to a need for more understanding of the technical differences between spatial and perceptual aptitudes as measured by the GATB.

Based on the comparison between Architectural and Technical Drafting, it can be assumed that students can perform equally well in either of these two programs. This similarity did not hold when comparing Automotive Service and Heavy Equipment and Diesel Repair students. Based on this comparison, it can be concluded that the more academically prepared students are attracted to Auto Service rather than to Heavy Equipment. This does not assume that the content of the Auto Service program is more academically demanding. When combining the Auto Service and Heavy Equipment programs and comparing them to the Architectural and Technical Drafting programs, we can see that both S and F scores a significantly higher for the draftsmen, as might be expected. Spatial and perceptual aptitudes are generally considered important for drafting work.

Since this study was limited to one school, future studies of this kind should have better sample representation. Special efforts should be made to include minority group members in samples for any type of selection research. It is becoming increasingly important to validate selection standards for minorities as well as non-minorities so more accurate decisions can be made for all groups.

In future studies better measures of success in vocational-technical schools should be found. Total accumulative GPA contains many factors and does not always indicate real proficiency. Many times this variable measures how well a student 'pleases' his instructors. Specific and rigid definitions for 'success' should be established as well as a reliable method for collecting performance data. Performance ratings, for example, can be written to include the many factors of success and may, therefore, restrict contamination and serve to better measure success. Instructors' ratings coupled with peer ratings in laboratory type classes may serve to be a better index of success in vocational-technical programs than simply grade point averages.

Other predictors such as interest, motivation, ingenuity, emotional maturity and personality should also be quantified thus to predict success. New constructs such as these would add much to knowledge of the essential ingredients of success in vocational-technical schools and future job success.

APPENDIX

TABLE II

Statistical Results of Stepwise Multiple Regression Analysis for Different Vocational – Technical Collegiate Programs

Architectural Drafting

Step	Variable	Multiple R	Standard Error	R Square	Change in R-square	F	T	Beta	B	S	Mean	SD	r
1	HSGPA	.522	.54	.27	.27	—	—	.461	.628	.148	2.28	.46	.522*
2	N	.575	.52	.33	.06	5.90	.940	.320	.018	.011	112.93	11.29	.360*
3	P	.626	.50	.39	.06	6.83	.863	−.228	−.009	.005	124.24	15.40	−.056
4	G	.634	.50	.40	.01	1.17	.484	−.012	−.001	.020	113.85	10.18	.388*
5	K	.641	.50	.41	.01	1.08	.894	.097	.003	.003	108.76	23.01	.277*
6	Q	.648	.50	.42	.01	.96	.673	−.122	−.006	.006	118.47	12.91	−.031
7	V	.649	.50	.42	.00	.10	.583	.094	.007	.011	100.31	8.85	.230
8	S	.650	.51	.42	.00	.17	.249	.085	.004	.009	127.83	14.47	.163
9	F	.651	.51	.42	.00	.08	.832	.052	.002	.004	105.58	18.26	.090
10	M	.652	.51	.42	.00	.19	.568	−.056	−.002	.004	114.64	19.88	.179
	Col. GPA										2.22	.63	

Constant = −.68584

Automotive Service

Step	Variable	Multiple R	Standard Error	R Square	Change in R-square	F	T	Beta	B	S	Mean	SD	r
1	HSGPA	.295	.57	.09	.09	—	—	.172	.277	.221	2.22	.37	.29
2	Q	.340	.57	.12	.03	2.08	.887	.215	.009	.008	117.64	13.55	.25
3	F	.363	.57	.13	.02	1.15	.970	−.262	−.008	.005	100.94	20.39	−.10
4	G	.386	.57	.15	.02	1.29	.635	.083	.004	.020	111.13	11.33	.20
5	P	.404	.57	.16	.01	1.00	.549	−.212	−.007	006	118.21	17.34	.04
6	M	.413	.57	.17	.01	.54	.542	.128	.004	006	106.04	17.53	−.04
7	S	.415	.57	.17	.00	.12	.473	.122	.005	.009	120.10	15.23	.15
8	N	.417	.58	.17	.00	.12	.307	.111	.006	.012	110 03	11.30	.14
9	K	.419	.58	.18	.01	.12	.734	−.053	−.002	.007	102.25	12.81	.06
10	V	.420	.59	.18	.00	.07	.369	.054	.004	.014	100.82	8.60	.16
	Col. GPA										2.42	.60	

Constant = .04193

Commercial Art

Step	Variable	Multiple R	Standard Error	R Square	Change in R-square	F	T	Beta	B	S	Mean	SD	r
1	HSGPA	.332	.61	.11	.11	—	—	.211	.259	.160	2.27	.53	.332*
2	G	.495	.57	.25	.14	13.41	.849	−.281	−.016	.019	106.58	11.05	.467*
3	S	.526	.56	.28	.03	3.21	.647	.496	.025	.009	121.64	12.89	.359*
4	V	.536	.56	.29	.01	1.07	.467	.321	.016	.009	102.90	12.80	.352*
5	N	.553	.56	.31	.02	1.97	.224	.379	0.17	.010	101.42	14.53	.377*
6	M	.563	.56	.32	.01	1.10	.748	−.131	−.004	.005	111.86	19.97	.162
7	Q	.569	.56	.32	.00	.74	.640	−.107	−.004	.005	122.82	16.35	.240
8	F	.569	.56	.32	.00	.07	.521	.033	.001	.004	111.45	21.80	.130
9	K	.570	.56	.32	.00	.03	.583	−.019	−.001	.006	108.92	15.30	.124
10	P	.570	.57	.32	.00	.01	.659	−.013	−.001	.004	116.72	21.54	.187
	Col. GPA										2.02	.65	

Constant = −2.18690

Cosmetology

Step	Variable	Multiple R	Standard Error	R Square	Change in R-square	F	T	Beta	B	S	Mean	SD	r
1	HSGPA	.356	.43	.13	.13	—	—	.318	.353	.160	2.34	.41	.356*
2	S	.505	.40	.25	.12	8.58	.909	.148	.004	.007	110.47	17.27	.449*
3	V	.579	.38	.34	.09	5.95	.938	−.564	−.027	.010	101.79	9.73	−.151
4	G	.596	.38	.35	.01	1.43	.252	.568	.021	.018	104.74	12.42	.262
5	Q	.626	.38	.39	.04	2.91	.723	−.227	−.007	.005	120.92	13.95	.068
6	M	.636	.38	.40	.01	.56	.724	.186	.003	.003	111.75	24.47	.192
7	F	.643	.38	.41	.01	1.06	.595	−.163	−.003	.003	110.98	23.82	.054
8	N	.645	.38	.42	.01	.14	.168	−.123	−.004	.010	104.49	14.58	.187
9	P	.645	.38	.42	.00	.09	.459	.054	.001	.004	119.98	19.37	.283
10	K	.646	.39	.42	.00	.01	.536	−.018	−.001	.004	109.87	16.60	.038
	Col. GPA										2.58	.46	

Constant = 2.79857

Heavy Equipment & Diesel Repair

Step	Variable	Multiple R	Standard Error	R Square	Change in R-square	F	T	Beta	B	S	Mean	SD	r
1	HSGPA	.302	.64	.09	.09	--	—	.200	.259	.181	2.22	.51	.302*
2	S	.447	.60	.20	.11	7.23	.971	.450	.019	.006	115.27	15.91	.377*
3	Q	.523	.58	.27	.07	5.23	.952	.315	.016	.008	111.84	12.71	.344*
4	F	.562	.57	.32	.05	.77	.799	−.196	−.005	.005	104.55	23.64	.049
5	G	.571	.57	.33	.01	3.15	.729	−.171	−.008	.007	105.30	13.61	.197
6	N	.579	.57	.34	.01	.69	.467	.147	.008	.010	104.84	12.23	.324*
7	M	.580	.58	.34	.00	.14	.493	−.071	−.002	.005	112.32	24.17	.121
8	K	.581	.58	.34	.00	.02	.502	.021	.001	.006	101.95	18.10	.174
	V					.00	.438				94.71	11.67	.269
	P					.00	.564				110.80	17.59	.226
	Col. GPA										2.54	.66	

Constant = −1.26734

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Machine Tool

Step	Variable	Multiple R	Standard Error	R Square	Change in R-square	F	T	Beta	B	S	Mean	SD	r
1	HSGPA	.415	.52	.17	.17	—	—	.370	.487	.174	2.20	.43	.415*
2	G	.546	.47	.30	.13	9.68	.909	−.227	−.009	.023	109.82	14.30	.463*
3	V	.557	.49	.31	.01	.93	.385	.016	.061	.013	97.82	12.42	.310*
4	P	.561	.49	.31	.00	.34	.833	−.241	−.008	.006	120.09	16.84	.157
5	Q	.567	.49	.32	.01	.52	.557	.133	.006	.008	114.09	12.34	.304*
6	S	.573	.49	.33	.01	.47	.354	.380	.011	.008	118.70	18.87	.320*
7	N	.590	.49	.35	.02	1.48	.133	.364	.016	.014	112.60	13.03	.450*
8	M	.594	.50	.35	.00	.37	.808	.142	.004	.005	112.81	18.98	.142
9	F	.599	.50	.36	.01	.42	.569	−.090	−.003	.006	103.26	16.16	.009
10	K	.599	.50	.36	.00	.02	.673	−.037	−.001	.005	103 49	15.78	.052
	Col. GPA										2 33	.57	

Constant = −.71508

Technical Drafting

Step	Variable	Muitiple R	Standard Error	R Square	Change in R-square	F	T	Beta	B	S	Mean	SD	r
1	HSGPA	.495	.58	.25	.25	—	—	.549	1.067	.285	2.13	.34	.495*
2	M	.521	.58	.27	.02	1.66	.999	−.068	−.003	.006	109.73	18.00	−.150
3	V	.539	.58	.29	.02	1.23	.928	−.366	−.042	.015	99.57	8.93	−.015
4	G	.561	.57	.31	.02	1.52	.477	.771	.057	.022	113.61	8.93	.213
5	N	.625	.55	.39	.08	5.33	.468	−.500	−.027	.011	111.10	12.06	.059
6	S	.636	.55	.40	.01	1.03	.635	−.144	−.009	.010	127.22	10.57	−.048
7	P	.641	.55	.41	.01	.44	.720	.118	.005	.007	119.49	10.45	−.067
8	F	.645	.55	.42	.01	.31	.757	.067	.003	.006	110.35	16.86	−.073
9	Q	.646	.56	.42	.00	.13	.644	−.081	−.005	.010	116.92	11.78	.009
10	K	.647	.57	.42	.00	.11	.605	.054	.002	.007	101.63	15.03	.001
	Col. GPA										2.03	.66	

Constant = 1.31106

Dental Assistant

Step	Variable	Multiple R	Standard Error	R Square	Change in R-square	F	T	Beta	B	S	Mean	SD	r
1	HSGPA	.318	.58	.10	.10	—	—	.241	.313	.144	2.47	.47	.318*
2	Q	.441	.55	.19	.09	9.72	.988	.245	.010	.005	127 70	15.72	.339*
3	K	.474	.55	.22	.03	3.25	.910	.209	.009	.005	109.74	14.37	.292*
4	G	.492	.54	.24	.02	1.88	.780	.274	.015	.011	107.72	11.01	.338*
5	M	.503	.54	.25	.01	1.19	.864	−.108	−.004	.004	111.34	17.76	−.016
6	N	.507	.55	.26	.01	.45	.473	−.122	−.006	.009	107.18	11.58	.264*
7	P	.511	.55	.26	.00	.49	.562	−.038	−.003	.005	123.62	18.70	.164*
8	S	.512	.55	.26	.00	.04	.341	.0[illegible]	−.001	.007	112.93	15.51	.204
9	F	.512	.55	.26	.00	.04	.690		.061	.004	112.91	18.52	.012
	V					.01	.392				103.05	9.64	.265*
	Col. GPA										2.03	.61	

Constant = −1.06178

Dental Hygiene

Step	Variable	Multiple R	Standard Error	R Square	Change in R-square	F	T	Beta	B	S	Mean	SD	r
1	HSGPA	.467	.54	.22	.22	—	—	.467	.610	.212	3.20	.46	.467*
2	M	.558	.51	.31	.09	4.60	.961	.349	.012	.005	122.41	17.49	.207
3	V	.572	.51	.33	.02	.81	.806	.427	.021	.013	115.54	11.95	.243
4	G	.600	.51	.36	.03	1.62	.468	−.380	−0.21	.015	119.65	11.00	.093
5	S	.610	.51	.37	.01	.62	.628	.121	.006	.010	116.35	11.27	.067
6	F	.613	.52	.38	.01	.12	.806	.060	.002	.006	118.41	16.88	.134
7	Q	.614	.53	.38	.00	.06	.972	.038	.002	.007	134.27	13.41	.059
	N					.00	.518				119.22	11.49	.021
	P					.01	.639				132.23	13.59	.075
	K					.01	.625				114.92	16.68	.190
	Col. GPA										2.83	.60	

Constant = −1.81200

Medical Assistant

Step	Variable	Multiple R	Standard Error	R Square	Change in R-square	F	T	Beta	B	S	Mean	SD	*r*
1	HSGPA	.516	.51	.27	.27	—	—	.339	.394	.139	2.52	.51	.516*
2	V	.604	.48	.37	.10	9.21	.878	.307	.018	.012	106.08	10.26	.475*
3	M	.640	.47	.41	.04	4.32	.997	.199	.009	.006	108.42	13.53	.210
4	N	.659	.46	.43	.02	2.48	.763	.254	.011	.009	108.89	13.83	.444*
5	P	.665	.46	.44	.01	.77	.700	−.079	−.003	.006	122.48	14.73	.115
6	F	.667	.46	.45	.01	.35	.767	.066	.002	.004	108.50	18.01	.229
7	K	.669	.47	.45	.00	.17	.744	−.037	−.002	.004	113.50	17.05	.173
8	G	.669	47	.45	.00	.08	.155	−.044	−.002	.016	107.60	12.91	.470*
9	S	.669	.48	.45	.00	.02	.392	−.021	−.001	.007	107.76	14.58	.157
	Q					.00	.643				129.08	15.86	.136
	Col. GPA										2.20	.59	

Constant = −2.11188

* Correlations significant at $\alpha = .01$ level.

Abstract

This study offers the reader a technical examination of the predictive powers of stepwise multiple regression as a tool for estimating the degree of success that can be expected of students in collegiate vocational programs. These predictions are based on information generally available to counselors and placement officers, namely : previous academic success and a commonly used vocational aptitude test. Ten different vocational programs were examined and the predicted capabilities were different in each case. This study should provide excellent background information for anyone choosing to employ regression or other statistical measures in an effort to improve the validity of placement and selection decisions in a collegiate vocational setting.

Résumé

La relation des scores d'aptitudes et des performances à la High School et le succès dans la réalisation des programmes collégiaux professionnels techniques.

L'étude offre au lecteur un examen technique du pouvoir prédictif de la régression multiple systématique comme object d'estimation pour le degré de succès qui peut être envisagé par les étudiants de programmes collégiaux professionnels. Ces prédictions sont basées sur une information générale à la disposition de conseillers et orientateurs, notamment : succès académique à prévoir et test d'aptitude professionnel généralement appliqué. On a examiné dix différents programmes professionnels et les capacités prédites furent différentes dans chaque cas. Cette étude pourrait fournir une excellente base d'information pour chacun qui cherche à employer la régression ou d'autres mesures statistiques dans l'évaluation de la validité de l'orientation ou des décisions de sélection dans la profession collégiale.

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Dr. Reitz has taught more than 10,000 graduate students at Master's and doctoral levels and has been major adviser for more than 45 doctoral dissertations. Since June, 1973, Dr. Reitz has been Professor Emeritus.

THE BETTER BEHAVIOUR GAME:
Reciprocal Operant Control of Pupils and Teacher

by

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Introduction

It is well accepted that social interactions such as that between students and teachers are two way, each affecting the behaviour of the other. Nonetheless, Sherman and Cormier (1974) were unable to find any description in the literature of the pupil's effect on teacher's behaviour in a standard elementary school situation, although they were able to find high school and university examples. Their study demonstrated that two 'disruptive' pupils could be reinforced for changes in their interaction with their teacher and that this led to changes in the teacher's behaviour. Mandelker *et al.* (1970), working with a class of six kindergarten children, found that the teacher's rate of social contact with her children increased as a function of having to implement a contingent token system, but not a non-contingent one. Breyer and Allen (1975), working with a class of fifteen academically and/or socially deficient first grade children, found that the teacher's baseline comments were almost uniformly negative. When the teacher implemented a token reinforcement programme, the rate of negative comments dropped and the rate of positive ones increased to approximately equal the negative ones.

A return to baseline conditions led to a drop in positive comments while negative comments remained at the same level as during the token intervention. In a somewhat less formal report Lindsley (1968)

tells us that, given some knowledge of operant conditioning principles, elementary school pupils may set out (without encouragement) to change 'undesirable' behaviour in their teachers (and parents).

The fourth-year (senior/graduate) behaviour modification seminar of the University of Otago was invited into a 37 pupil private elementary classroom. The teacher was experienced and had taken over this class because of its reputation for being 'difficult'.

Approximately six weeks observation of the classroom (4-8 hours per week) revealed that for eight selected pupils the percentage of time 'off task', with off task defined as doing something other than the assignment, ranged from 24.1 % to 52.9 % with a median of 32.2 %.

A search through the literature commenced looking for an appropriate technique for modifying this behaviour. The following constraints were placed on the search.

(1) The intervention should at least initially be minimal. That is, we are not out to produce a set of automatons, nor at this age (6 & 7) was over-much discipline considered desirable (WINETT & WINKLER, 1972 ; O'LEARY, 1972).

(2) The programme instituted should cost little or nothing. Token economies have the disadvantage that they are often expensive (OSBORNE, 1969) and may take considerable administration (ALTMAN & LINTON, 1974).

(3) The programme should be one which could be carried on by the teacher working on her own after our departure. A programme that requires an extra adult in the classroom all the time may make a nice research project, but doesn't do the pupils or school any good in the long run.

The skeleton of such a programme was found in OSBORNE's (1969) description of a technique used to control the behaviour of a class of six mentally retarded deaf school-girls ranging in age from 11 years 8 months to 13 years 8 months. The instructions given this class were as follows : 'From now on we will be doing something new. I want you all to sit in your chairs. You must not leave them without asking me. If you can do that, you will be given five minutes of your own time at 8.20 (or in 15 minutes).' If the 15 minute period ended in the middle of a lesson, the lesson was suspended for 5 minutes (free time) and then recommenced. As the study continued, out of seat

behaviour fell to zero by day 20 and essentially stayed there. One other point of interest for our purposes was the observation that 'The teacher noted that the students did not always use all of their free time periods. That is, for one or two of these periods each day (only mornings were involved in the study), some students would remain seated and perhaps working.'

This approach seemed particularly appropriate because our observational notes indicated that a good deal of the disruptive behaviour seen included, as a first step in the behavioural chain, getting up and wandering about the room, stopping to chat with, and consequently disrupt, friends.

As a check on the appropriateness of this particular choice of intervention we also recorded, without the teacher's knowledge, the number of reprimands she issued for any reason. This was done on the assumption that if we were indeed reducing generalized disruptive behaviour on the pupils' part, we should find a reduction in verbal reprimands on the teacher's.

Discussion with her revealed that she felt that the bulk of class behaviour problems were concentrated in the afternoon and she requested that we concentrate on this period.

Method

Subjects : 33 standard one (second grade) pupils, average age 7, and 4 primer four (end of 1st grade) pupils, age 6. One teacher/principal of a six-teacher elementary school.
Apparatus : 1 small hand bell, a number of games, puzzles, books etc. appropriate for this age group.
Setting : A light, airy, modern classroom with desks and chairs that can be easily shifted about.
Observers : N = 8 Participants in behaviour modification seminar Psychology Department, University of Otago.

Behaviour Categories :

Pupils : Out of seat behaviour was defined as having two feet on the floor and bottom not touching the seat. Note that this means that a pupil can be standing on his desk and still be considered 'in seat'.
Teacher : Reprimands were somewhat more loosely defined. Any

negative statement of the nature 'be quiet' or 'your workbook is dirty (sloppy)' whether addressed to the class or to an individual. Note that during the baseline period the teacher never reprimanded students for being out of their seats, as this behaviour was permitted. During the experimental weeks she was specifically asked not to issue reprimands for this behaviour and did not do so while observers were in the room.

Procedure :

The observers were introduced to the class as a group. The teacher's original introduction unfortunately included the information that most of the observers were studying to be clinical psychologists, that is, people who study 'sick minds'. The class was told that one or two of us would be in the back of the classroom on most days and that we should be ignored while in the classroom.

Approximately six (4 day) weeks of observation preceded the baseline week for this experiment. During this time teacher and pupils had the opportunity to become acclimated to our presence and the pupils, with a few early exceptions, did ignore observers in the classroom although a number of the observers became popular figures on the lunchtime playground.

Our time and manpower were such that we could provide continuous coverage of the classroom during Monday-Thursday afternoons, leaving the teacher to cope with Friday by herself. For the next (7th) week (Monday-Thursday, 1 p.m. to between 3 and 3.30 p.m.) of afternoons, we recorded a time sample of number of students out of seat every minute on the minute and a total (per hour) count of the number of reprimands issued by the teacher. The average number of pupils out of seat during this baseline week was 4.16 per minute and the average number of reprimands per hour was 22.

At the start of the next Monday afternoon (experimental week one), the following instructions were read, by the teacher, to the class :

'Everyone put your hands on your heads ; I want you to listen carefully to what I have to say.

This afternoon, and every afternoon from now on, we are going to play a game. This game means that you will have more playtimes in the afternoon, but only if you play the game the right way.

Here are the rules. There will be two kinds of times, work times and 5 minute play times. I will ring a bell at the beginnings and the ends of the playtimes. When the bell rings, you will be allowed to do whatever you want for the playtime, providing you have followed the rules properly. To follow the rules, you must stay in your seats, without moving your chairs and desks around the floor during your worktime; unless I ask you to do something else. For those who leave their seats during the worktime, that is, those who don't play the game properly, there will be no playtime for them to do what they like. They will have to remain in their seats, with their heads down on crossed arms, on their desks like this (Demonstration).

Since these people have lost the game, no one else should speak to them or play with them during playtime. You will know if you haven't earned you playtime, because, before I ring the bell, I will read a list of the names of those people who were out of their chairs during the worktime. Remember that all pencil sharpening, chair moving and going to the toilet can be done during the playtime but must not be done during worktime.

Any questions ?'

A number of games and other diversions (checkers, scrabble, junior scrabble, books, puzzles, etc.) were made available during the playtimes, and could be left out for the resumption of play during the next playtime.

The worktimes varied between seven and 26 minutes to allow completion of lesson units. The average for week one was 15.19 minutes, week two was 21.5 minutes and for week three was 19.2 minutes. This meant that there was approximately 20 minutes of playtime in a two-hour afternoon after the programme was well established. Since five minutes of this was already scheduled as recess, it became part of our schedule as a playtime in which pupils could go out of doors in addition to the activities available during other playtimes. This meant a loss of approximately 12.5 % of the formal teaching time. After the first few days, casual observation indicated that, during each 'playtime' 8-10 of the pupils (not always the same ones) would use this period to get together to go over their lessons.

Time sampling was continued. These contingencies were in operation for the following three weeks. Then the classroom was returned to baseline conditions for a week (BC2). This was followed by a three day (Friday, Monday, Tuesday) reinstatement of the game (experimental conditions).

RESULTS

As Table 1 and Figure 1 indicate, there was a 94% (or approximately 15:1) decrease in time sampled out of seat behaviour between the baseline week and the first two experimental weeks and a 97% (or approximately 40:1) decrease between the baseline week and the 3rd experimental week. Note also that the 3rd week's performance represents a 62% improvement over the 2nd week's, while there is no appreciable difference between experimental weeks one and two. The return to baseline conditions week (BC2) represents a return to approximately the level of the baseline week and the reinstatement condition also reinstated the minimal out of seat behaviour characteristic of the experimental weeks.

TABLE 1

Average No. of pupils out of seat per minute (time sampling) by weeks

Baseline week	1st exp. week	2nd exp. week	3rd exp. week	BC2 week	Reinstatement week
4.16	0.26	0.26	0.10	3.38	0.07

To check the possibility that our procedure was effective only when certain lessons in the week's syllabus were in force, we

TABLE 2

Average No. of pupils out of seat per minute (time sampling) by days

	Baseline week	1st exp. week	2nd exp. week	3rd exp. week	BC2 week	Reinstatement week
Mon.	3.12	0.32	No class	0.07	1.67	0.05
Tues.	6.25	0.18	0.43	1.71	4.54	0.11
Wed.	3.95	0.21	0.26	Substitute Teacher	5.74	
Thurs.	3.33	0.35	0.10	0.06	1.56	
Fri.						0.07

compared all our Mondays with each other all our Tuesdays with each other etc. (Table 2). None of the individual day's data in Table 2 is in major way at variance with the trends illustrated in Table 1.

As a check on inter-observer reliability, correlations were computed between the day means recorded by different experimenters, represented in Table 2. These ranged from r = 0.645 (with only 3 comparable days) to r = 0.997 with a mean of r_x = 0.862 strongly suggesting that the observations of out of seat behaviour are reliable.

One further measure was taken, although coverage during the baseline week was unfortunately incomplete. This was a measure of the number of reprimands (per hour) issued by the teacher for *any reason* (being out of seat was never reprimanded ; Table 3, Figure 2).

TABLE 3

Average No. of reprimands (per hour) issued by the Teacher for any reason

Baseline week	1st exp. week	2nd exp. week	3rd exp. week	BC2 week	Reinstatement week
22.00	3.43	4.50	3.67	18.13	6.80 omit day 1 4.50

Table 3 and Figure 2 show an 82 % (or 5.7:1) drop in the average number of reprimands between the baseline week and the three experimental weks. The BC2 week shows a return to baseline levels of reprimanding and the reinstatement period shows a partial, if we include the day 1 (Friday) data, or complete, if we exclude this data, return to experimental levels.

A breakdown of number of reprimands issued per day similar to Table 2 was made as a further relability check (reprimands were the behaviour category most difficult to define). Intercorrelations were calculated between all days (e.g. All Mondays versus all Tuesdays etc.). These ranged from r = 0.794 to r = 0.952 with a mean of r_x = 0.888, actually higher than the mean correlation for out of seat behaviour suggesting that the observers were all identifying the same behaviours as belonging to the class 'reprimands'.

Fig.1

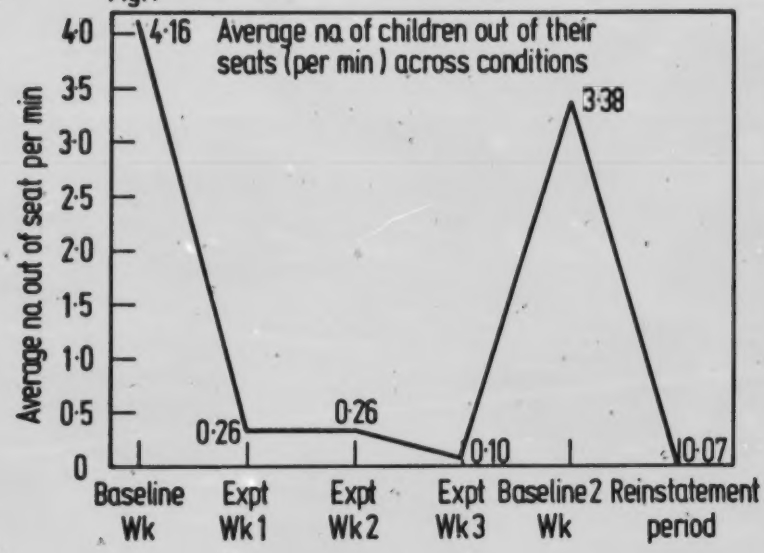
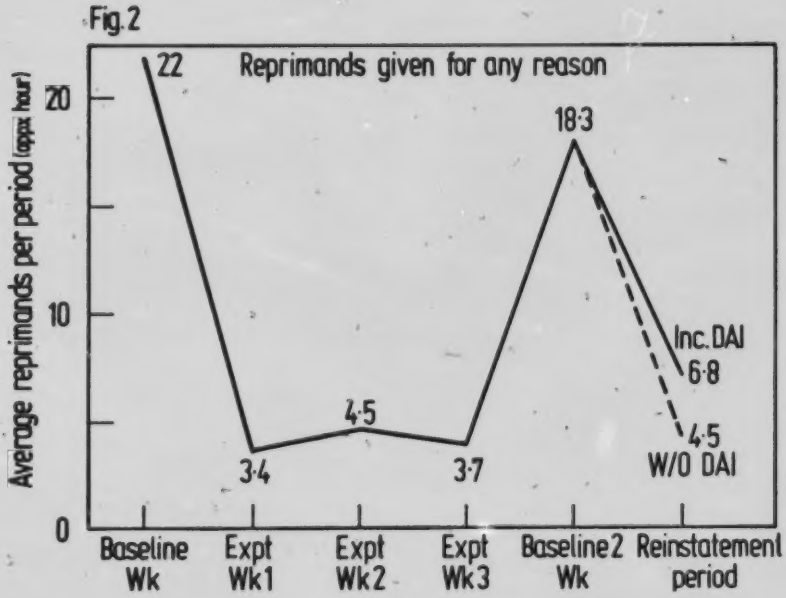

Average no. out of seat per min
4·0
3·5
3·0
2·5
2·0
1·5
1·0
0·5
0
4·16
Average no. of children out of their seats (per min) across conditions
3·38
0·26
0·26
0·10
0·07
Baseline Wk
Expt Wk 1
Expt Wk 2
Expt Wk 3
Baseline 2 Wk
Reinstatement period

Fig.2


Average reprimands per period (approx hour)
20
10
0
22
Reprimands given for any reason
18·3
Inc. DAI
6·8
4·5
W/O DAI
3·4
4·5
3·7
Baseline Wk
Expt Wk 1
Expt Wk 2
Expt Wk 3
Baseline 2 Wk
Reinstatement period

Comparing Table 1 and Table 3, or out of seat behaviour with reprimands, we get a correlation of r = 0.985 (see also Figures 1 & 2).

Discussion

It would appear that our intervention meets all the criteria set in the introduction. It was inexpensive except in terms of manpower and this was mainly a result of the requirements of research, not classroom control. It involved minimal change in behaviour repertoires since only one easily discriminable behaviour was directly manipulated. It was a programme which the teacher could carry on without difficulty, by herself in our absence, requiring almost nil administrative time. It made a change in overall classroom environment avaluated as positive by both teacher and pupils (considerable vociferous protest was raised by the pupils at the beginning of the return to baseline conditions week (BC2) when they were told that 'we are not going to play the game this week').

Additionally this manipulation of the pupils' behaviour showed an almost perfect correlation with the teacher's production of verbal negative reinforcers, even though these reinforcers were *never* explicitly concerned with being out of seat. The most frequent reprimand was for 'dirty (sloppy) work books'. It would not be too speculative to suggest a causal relationship between pupils' and teacher's behaviour. This may be analogous to the decrease in teacher 'negative comments' found by Breyer and Allen (1975) during the implementation of their token programme and the increase in 'on task' behaviour which accompanied this implementation.

Although no direct measure was taken of interobserver reliability the day to day correlations between observations show a mean value of over r = 0.86. Since observers tended to be present on the same days (Mondays etc.) each week this shows an acceptable consistency both in observation and day to day behaviour.

The remaining questions are : why did it work, and was it a good idea ? Osborne (1969) has suggested several alternative explanations for the efficacy of his very similar procedure. His suggestion includes : 1) 'playtime' represents negative reinforcement or time out from what he says Skinner considers a generally aversive environment

(the classroom) ; 2) the activities which fill 'playtime' may be positive reinforcers in their own right ; and 3) that the activities in 'playtime' may be of higher probability than those in 'worktime' and therefore by the Premack principle can be used to reinforce those activities.

Alternatively, or more likely additionally, the loss of peer contact (or the threat of such loss) during a lost 'playtime' may have produced in seat behaviour as an avoidance response, although ALTMAN and LINTON (1974) state thatt he efficacy of peer influence is still questionable. This assumes that observational avoidance learning (LELAND, 1969, p. 23) had taken place as many of the children were never deprived of a 'playtime'.

Further possibilities are that : the pupils behaviour was the result of a 'Hawthorne effect' (MARLOWE, 1971, pp. 509-511) produced by the introduction of the extra 'playtime' ; the presence of rest periods ('playtimes') allowed either for the release of pent-up energies that otherwise would have manifested themselves in out of seat behaviour during 'worktime' or, as a function of rest, on-task behaviour including staying in seat became easier and hence more frequent ; the observed change in the teacher's behaviour (reduction or increase in negative statements) bears a causal relationships to the changes in the pupils' behaviour rather than vice versa.

We feel that the 'Hawthorne' effect argument can be rejected as this study differed in two important ways from the paradigm for such effects. The first difference is procedural. ROETHLISBERGER and DICKSON (1964) attributed much of the improvement in their workers' performance to the fact that the workers were consulted about changes. In this experiment only the teacher was consulted. The second difference is in results. In the 'Hawthorne' study changes both in what the authors considered a favourable direction (e.g. less overtime work) and in a less favourable direction (e.g. more overtime work) led to improvements in performance. In this study 'favourable' change led to improved performance but 'unfavourable' or 'neutral' change led to impaired performance. Hence the 'Hawthorne' model doesn't seem to fit.

The question of the effects of rest period alone is much more difficult to handle, as we did not run what now seems the obvious control, a non-contingent series of 'playtimes' preceding the

experimental weeks. Subsequent non-contingent 'playtimes' were rejected as a control measure as OSBORNE (1969) and SOMMER (1968) suggest that a non-contingent period subsequent to the experimental weeks would yield effects heavily coloured by the previous, contingent training.

In addition, MCCORMIC and TIFFIN (1974, pp. 479-485), state that there is 'not much in the way of hard data' to support the hypothesis that rest periods ('playtimes') have beneficial effects in work settings.

The suggestion that the teacher's reduction in negative statements bears a causal relationship to the pupils' sitting behaviour (rather than vice versa) is hard to refute on an *a priori* basis. We took no record of positive statements but only of negative ones. If we assume that out of seat behaviour was being maintained by teacher attention (positive or negative), and make the further (probably inaccurate) assumption that more of this attention was forthcoming when students were out of their seats, then this suggestion could indeed explain that portion of the data related to pupil behaviour. However, it would leave us with the extremely difficult question of why the negative statements on the teacher's part decreased from baseline to experiment, increased during the return to baseline conditions (BC2) and decreased again during reinstatement. Any explanation for one of the changes would seem to be rendered invalid by the next change (e.g. an attempt to comply with the experimenters' 'ignore out of seat behaviour' dictum). This explanation would seem to be rendered even more unlikely when we recall that the teacher did not know that her behaviour was being recorded and that she never gave reprimands, under any condition, for being out of seat.

We tend to favour the Premack principle hypothesis as being the best explanation for the efficacy of the wide variety of activities engaged in during 'playtime' for increasing the probability of pupils staying in their seats.

The second question ('was it a good idea?') stems from disagreements such as the one between WINETT and WINKLER (1972) and O'LEARY (1972) as to the desirability of shaping up such behaviour as staying in one's seat for elementary school pupils. In some ways this is a very difficult question for this study to tackle. We made no attempt to take any scholastic performance measures during the course of the experiment, nor did we make any systematic

attempt to measure the pupils', or the teacher's, satisfaction with the programme, although the informal feed-back already mentioned was uniformly favourable. In addition to the standard escape from such a dilemma represented by the suggestion that 'further research is necessary', we can only say that from the observer's subjective point of view, the classroom was a pleasanter place and better learning environment when we left, than it was when we came. This is not to imply that it was bad when we came, just that it was better when we finished.

One further caveat must be added. The end of the school year prevented us from carrying out what should always be the next step in such a programme, that is to fade out or at least consolidate the extra reinforcement periods, for example, we could have told the children that their time off would be saved up to the end of the day (early dismissal) than possibly to the end of the week with appropriate secondary reinforcement (announcement or posting of time earned) replacing the breaks in the teaching schedule.

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SUMMARY

Thirty-seven subjects comprising one standard two (second grade) class were given time off with games and books available for remaining in their seats. The number of reprimands issued (either individual or group) by the teacher, for any reason, were also recorded, without her knowledge. No reprimands were ever given for being out of seat. Recording periods comprised one week of baseline data gathering, three weeks of experimental conditions, one week of return to the baseline conditions and three days of reinstatement of the experimental conditions. Both out-of-seat behaviour and reprimands are high during baseline ($\bar{X}$ = 4.16 & 22), low during experimental weeks ($\bar{X}$ = 0.21 & 3.87), high during the subsequent baseline conditions (BC2) week ($\bar{X}$ = 3.38 & 18.13), and low during reinstatement ($\bar{X}$ = 0.07 & 4.50). The correlation between the two measures is r = 0.997.

RÉSUMÉ

Le jeu du meilleur comportement
Contrôle de l'opérant réciproque élèves – enseignant

Une récréation, accompagnée de jeux et de lectures, a été accordée aux trente-sept sujets d'une classe du degré secondaire, pour être restés assis. Le

nombre de réprimandes (individuelles ou à un groupe) formulées par l'institutrice, pour n'importe quelle raison ont également été enregistrées, à son insus. Aucune réprimande n'a été faite aux sujets s'étant levés. Le temps consacré à l'expérience a été le suivant : une semaine pour le ressemblement des données de base. Trois semaines d'expérimentation, une semaine pour le retour aux conditions pré-expérimentales et trois jours de retour à l'expérimentation. Les réprimandes et le nombre de sujets ayant quitté leur siège ont été élevés durant la première semaine ($\bar{X}$ = 4.16 & 22), moindre durant les 3 semaines d'expérimentation ($\bar{X}$ = 0.21 & 3.87), à noveau élévés au cours de la cinquième semaine (BC2) ($\bar{X}$ = 3.38 & 18.13), réduites pendant les trois jours de retour à l'expérience ($\bar{X}$ = 0.07 & 4.50). La corrélation entre les deux mesures est de r = 0.997.

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THE NEED FOR TEACHER TRAINING AND A TRAINING MODEL TO PROMOTE DEMOCRATIC TEACHING BEHAVIOUR

by

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INTRODUCTION (THEORETICAL OUTLINE)

Educational Psychology has in the Federal Republic of Germany, like Clinical Psychology, only recently begun to consider the social relevance of its research activities. Thus many institutes today include a department for educational and clinical behaviour modification. Four essential, closely interrelated questions concern anyone (the teacher for example) who wishes to change the teaching process in school :

(1) *Planning the desirable future situation (consideration of educational objectives)*

Which educational aims, which sort of people, which form of society are we, as educators and teachers, trying to achieve ? (more or less consciously and more or less explicitly).

(2) *Diagnosis of the actual situation (pre-test)*

How can we evaluate the present educational situation (a question of the measurement instruments) ? What is going on in education at the moment ? What are the effects of the different educational patterns on the children and young people ? Which principles of learning are significant in the social sphere of human interaction ? Finally the diagnosis : How far does the situation as it is differ from the situation as it should be ? Which aspects of the present educational pattern are particularly to be criticised and in what spheres are changes especially desirable in order to achieve the ideal future situation ?

(3) *Changing the situation as it is into the situation as it should be (experimental influence)*
How far, and by what means can the present educational pattern be changed ? How can we change the attitudes and patterns of behaviour of educators so that they become more socially aware and more democratic ? How far must the methods used for this be governed by the aims involved and how must teachers and teacher trainers therefore be prepared and trained ?
Finally : How can the attainment of the ideal situation be defined in operational terms ?
(4) *Feed-back on desired change (post-test)*
Have the methods of change employed significantly reduced the discrepancy between the ideal and the actual situation ? How must trainers and methods be changed in order to achieve more effective changes in the whole situation ? This general theoretical model borrowed from Cybernetics is concerned with the main steps in a learning system. When individuals, groups, or systems are ready for change (i.e., are ready to learn more) they should follow these steps systematically. Teachers and pupils can, on the basis of this series of steps, enter into a common learning process. We shall attempt to show which educational aims are, in our opinion, compatible with a free and democratic education. Comparison with the present situation (diagnosis of the situation as it is through empirical investigation) will show what changes must be made in it and how they can be achieved. The second section of this work will be concerned with the possibilities and demands of teacher training as revealed by the empirical investigations carried out to date.

1. Consideration of the Aims of Education and Planning of the Future Ideal Situation

When value judgements are applied to education, it is necessary to make them explicit and to allow critical examination of them. Educators (e.g., parents, teachers)or institutions with an educational function (television, cinema, press) influence people as models, through selective reinforcement and through the choice of particular contents, methods and materials. Therefore the question arises as to the nature of these models and selective reinforcers. But the nature

of education depends to a considerable degree on the value-scheme of the educators and thus on their personal ideology.

Of course, these educational ideologies are not to be implicitly accepted as 'obvious' and 'unquestionable', for such implicit acceptance leads to educational dogmatism which precludes all possibility of free and democratic education. Definitions of the aims of education by means of concepts are often just as ambiguous as the concepts themselves. For example, the ambiguity of the concept 'democracy' is revealed by the fact that political groups with widely varying aims claim to be 'democratic'.

The aims of education must be defined with the greatest possible clarity and practical relevance. One possible way of ensuring, or at least of making it possible to judge, the unambiguity of abstract concepts of educational aims is the attempt to define each educational aim in terms of the operations and methods which are necessary for its achievement. Thus an educational aim is no more than the sum of these operations and methods. The similarity between aims can be investigated through the comparison of the general and the specific conditions involved in their achievement. A further advantage is that each aim must be put into practice since it can only thus be defined. With the development of new methods, the definition (and thus the very nature) of the aim itself automatically becomes expanded or modified.

In any society, the decisive factor is not so much whether a state provides the opportunity for democratic behaviour as whether the people within the social structures and orders achieve or learn the ability to behave and to act freely and democratically in the individual and the social sphere.

We refer here to those basic individual and social abilities which make it possible :

– to develop satisfactorily as an individual without thereby encroaching on the development of other individuals (individual development and personal growth) ;

– to do this in cooperation with other individuals and with respect for them (social learning and attainment of socially responsible behaviour) ;

– with the general basic aim of the improvement of the idea of

humanity in the most diverse fields (external living and labour conditions as well as the internal conditions of any society).

FITTKAU and ROEDLER (1970) consider the following basic individual and social abilities and types of behaviour as essential for internal democratisation :

Individual basic abilities/types of behaviour

(1) independence ; autonomy ;
(2) possession of a realistic self-image ;
(3) Genuine behaviour and self-congruence ;
(4) sufficient self-respect and self-confidence (psychic stability) ;
(5) personal courage (e.g., civil courage) ;
(6) knowledge of and ability to control the environment :
  a) understanding of commercial and political relationships,
  b) achievement of technical and scientific knowledge,
  c) flexibility in thought and behaviour,
  d) ability to verbalise one's own opinions and interests in communication with other people ;
(7) possession of and commitment to personal aims ;
(8) rejection of perfectionism ;
(9) experimental attitude (being open to new experiences) ;
(10) physical health.

Social basic abilities/types of behaviour

(1) critical and constructive discussion of social and political problems ;
(2) acceptance of the necessity for social conflicts and readiness as well as ability to regulate them ;
(3) ability to cooperate ; readiness to compromise constructively ;
(4) tolerance and respect for other points of view ;
(5) self-control, patience, self-discipline (which makes possible a reduction of external discipline) ;
(6) freedom from prejudice ; preference for rational, scientifically justifiable decisions ;
(7) readiness to accept responsibility ;
(8) responsible attitude towards individual freedom and delegated power (principle of non-violence) ;
(9) social sensitivity ;
(10) respect for the 'equality and worth of all men'.

2. Diagnosis of the Actual Situation (Pre-Test)

2.1. Instruments for measuring educator behaviour

Before describing teacher and educator behaviour in the FRG it is first necessary to indicate briefly the methods of measuring the behaviour (indicating also their respective advantages and disadvantages).

The following methods can be distinguished :

(1) Registration of behaviour according to definite categories.
Advantage : objectivity ; behaviour is directly recorded.
Disadvantage : for less common categories, long observation periods are necessary in order to obtain reliable results.

(2) Rating of behaviour on polarity scales (e.g. appreciation vs. inappreciation) by neutral observers :
a) in the classroom,
b) using video recordings,
c) using tape recordings,
d) on the basis of conversational exchanges recorded during the lesson.
Disadvantage : the rating is made only on the observation period ; for a) teacher-pupil behaviour is affected.
Advantages (except for a) : it is possible to repeat the rating using other variables or other observers.

(3) a) Rating of the teachers by pupils using behaviour inventories or giving characteristic behavioural traits of the teacher.
Advantages : the whole experience of the pupil over a considerable period is drawn upon ; thus an economical method.
Disadvantage : the pupil's zero point depends on his previous experience so that a comparison between different teachers with different pupils is difficult. There is also the 'halo-effect' to be considered.
b) Rating of the teachers by headmasters and colleagues (so that other rating criteria may also be considered).

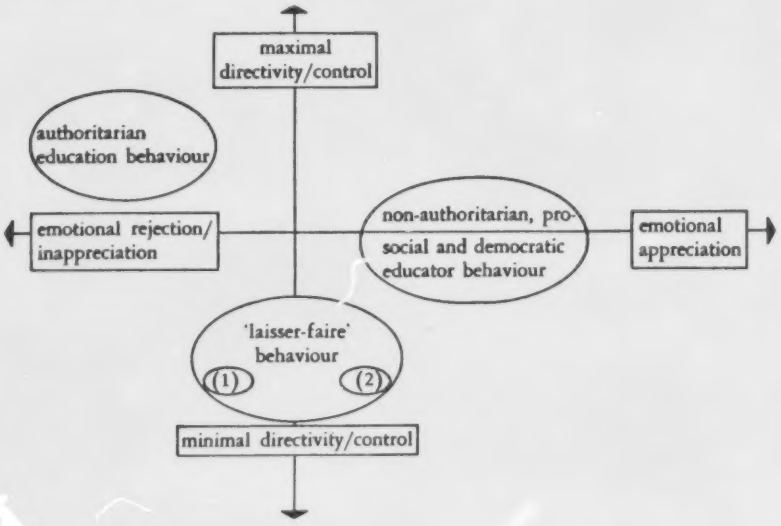
(4) Self rating, e.g., measurement of educational attitudes through a questionnaire on directivity (FdE of Bastine *et al.*, 1969).
Behaviour rating can be undertaken using several behaviour inventories (as mentioned above).
Advantages : least wasteful, very economical.

Disadvantage: opportunities for faking and high likelihood of distortion effects (because of 'social desirability' etc.).

2.2. The major education styles: authoritarian, laisser-faire, and non-authoritarian educator behaviour

The following diagram presents the three major education styles:
– Authoritarian educator behaviour is characterised by negative emotionality and inappreciation, and involves a high degree of guiding and directive behaviour.
– Non-authoritarian, pro-social, democratic behaviour is, on the contrary, characterised by positive emotionality and appreciation and involves a low degree of directive behaviour.
– Laisser-faire behaviour, which is chiefly characterised by minimal guidance and maximal permissiveness, may be divided into two sub-groups according to the basic emotional attitude:
a more positive form of laisser-faire behaviour, characterised by fairly appreciative and sympathetic educator, behaviour (2) and
a more negative sub-group, characterised by rejecting, distant educator behaviour (1).

Diagram I: *Three main types of teaching style*



Research findings

An essential definition of *authoritarian education* is that it makes for maximal promotion of the interests of the 'stronger party' (i.e., the educator) as is shown by the high degree of inappreciation and directivity – by the authoritarian attitudes and behaviour of the educator. The two possible alternatives to authoritarian educator behaviour are the laisser-faire style and the non-authoritarian, pro-social democratic type of educator behaviour. Of these two, laisser-faire is not desirable, since a high proportion of children and young people subjected to this type of education become aggressive and delinquent (BANDURA and WALTERS, 1963).

Laisser-faire behaviour is often regarded merely as 'permissive' but the disadvantage is that necessary social norms are internalised only to a very small degree with this type of educator behaviour. The model behaviour of laisser-faire educators is thus in the perception of children characterised by aimlessness and lack of positive concepts which arouses dissatisfaction in the pupils. BANDURA and WALTERS (1963) showed that aggressive young people usually had parents whose attitude towards aggressiveness was very permissive. Aggression was most common in young people whose parents allowed aggression towards other people and objects but punished severely any aggression towards themselves. GLUECK and GLUECK (1950) showed that the parents of juvenile delinquents were either very indulgent (laisser-faire behaviour) or very indefinite in their educational behaviour. This conceptless wavering between laisser-faire behaviour and very strict, authoritarian behaviour can be related to sub-group 1 of laisser-faire behaviour, which is characterised by rejecting, distant, emotionally inappreciative educator behaviour.

Thus, since laisser-faire behaviour is not at all appropriate as an alternative to authoritarian behaviour, research shows that 'socially integrating' or 'democratic and cooperative' educator behaviour is desirable. Characteristics of such behaviour are :

– a high degree of appreciation of social partners ;
– a striving to understand the feelings and interests of the other, and
– to accept them as equal, so that where conflicting interests are concerned a general agreement may be reached in a non-violent manner,

– self-congruenty and personal sincerity,
– and the attitude to accept that conflict is sometimes inevitable.

This type of behaviour enables the individual to discover for himself (without external pressure) the rules which are essential to satisfactory personal and social life. Available research data shows that this sort of 'non-authoritarian behaviour' furnishes the best conditions for the development of satisfaction, creativity, independence, emotional stability and sociability.

Although these results are fairly well known, it is clear that authoritarian social behaviour is easily adopted and very difficult to eradicate in practice. There are two main reasons for this (at least in Western European countries, partly in the USA and other countries) :

(1) Our societies are full of examples of apparently successful authoritarian behaviour (on television for instance) whose prestige allows them to serve as 'vicarious reinforcers'. Further, parents are often determined by their own authoritarian upbringing, which means in practice that they will no more question the suitability of authoritarian behaviour than their parents did : authorities are always right and are above question.

(2) Authoritarian measures (e.g. punishment, harsh criticism and ridicule) generally have an immediate effect, i.e. the educator sees the result immediately and thus learns authoritarian behaviour through its success (reinforcement principle).

Therefore the measures which are necessary for the reduction of authoritarian behaviour (which is desirable in view of its effects) are :

(1) The television programmes are to be checked ; examples of successful non-authoritarian behaviour must be shown. Similarly, in the school sphere, teachers must be given behaviour-training based on examples of succesful non-authoritarian behaviour, so that at least the awareness of alternative behaviour may be promoted. The next step would be systematic training in non-authoritarian attitudes, social interaction and teaching behaviour.

(2) Pupils should be trained not to reinforce authoritarian behaviour by conforming (education for disobedience). In conflict situations, pupils must be in position to suggest other ways of setting conflicts and to reinforce by positive reactions appropriate teacher behaviour. This

is the basis of the apparent 'discrepancy between theory and practice' so frequently conjured up by so-called 'practice experienced' educationists and teachers.

Learning appropriate social behaviour cannot be a purely rational process, but it must involve different forms of discovering for oneself and is therefore linked to experience. A realistic evaluation of the initial situation is essential. This points to an insight into :
– the authoritarian nature of one's own social behaviour (as far as the educator is concerned) ;
– the very authoritarian structure of different education situations (e.g. schools) ;
– the difficult and controversive situation of the pupils, who are frequently confronted with different forms of social behaviour at home than in the Kindergarten or school and so have discrepant experiences which cannot be processed without conflict.

An educator should therefore try to explain this difficulty to those who are to be educated, so that everyone may be helped to achieve the appropriate paterns of social behaviour through understanding of their own and other people's situations.

2.3. Characteristics of the Dimension 'Appreciation, Emotional Warmth, Affection vs. Emotional Coolness, Disaffection'

Animal experiments by BERNSTEIN (1957), RUEGAMER (1954) and HARLOW's research group (1959, 1962) have demonstrated the general significance of the emotional dimension for the error score in learning exercises, for the physiological using of food, and for behaviour stability as opposed to abnormal behaviour.

Affectionate attention vs. hostile rejection on the parents' part has the following effect on young people : SEARS and his team (1957) found that mothers with emotional warmth seldom had children with so-called eating problems (11 %), while the children of mothers whose attitude was cold or hostile far more frequently had the eating problems (35 %).

In a factor analytical study (1961) RYANS established the dimension, 'friendly, understanding, warm' vs. 'distant, restrictive, egocentric teacher behaviour'. A positive correlation could be established between this dimension and productive pupil behaviour. TAUSCH, KÖHLER and

FITTKAU (1966) established a corresponding basic dimension 'friendly', 'socially reciprocal', 'calm', 'at-ease' teacher behaviour 'regarding the pupil as a partner' vs. the opposite behavioural characteristics. There is a negative correlation of the positive pole of this dimension with fear of school in the pupils. No relationship with achievement was found.

In his dissertation, FITTKAU (1969) confirmed and expanded these results. It was shown that emotional attention was very significant for a teacher's popularity and for the reduction of the pupil's fear of school. Further creativity in the children was significantly increased by attention and appreciation.

The main effects of the dimension emotional attention and appreciation are thus as follows :

- the incidence of juvenile delinquency is reduced ;
- there is less fear of school ;
- pupils' creativity is significantly increased ;
- no significant change can be observed in the pupils' achievement, knowledge and ability.

There is certainly a tendency in the purely 'cramming' subjects for authoriatrian teacher behaviour to have in the beginning more success, but at the same time uncertainty and anxiety increase in the pupils. Further, independent and creative thought (especially with divergent thought processes) tend to be reduced by authoritarian teacher behaviour in subjects such as language essay or mathematics.

The effects of appreciation/non-appreciation can be summarised as follows :

1. Appreciation reduces defensive, hostile behaviour as well as the striving for recognition and attention.
2. Appreciation gives the juveniles a sense of the permanent value of their personality and emotional stability.
3. Self-respect and the positive elements of the juveniles' self-concept are strengthened by appreciation. The greater one's own self-acceptance, the greater one's capacity to accept and tolerate other people.
4. The teacher's appreciation of the pupil helps to promote in the pupil a reciprocal appreciation of the teacher (reciprocity of social behaviour).

The effects of understanding (or empathy) vs. lack of understanding as a further significant characteristic of the emotional dimension are as follows :

1. Negative effects produced by guidance and control are reduced by understanding, because positive emotional experiences are involved :
2. The increase of positive reactions improves relationships in the school situation ; however, there does not seem to be any relationship with immediate adjustment of children in conflict situations (TAUSCH, TAUSCH and FITTKAU, 1967).

Consequences for conflict solution

As well as expressing in word and action his understanding for the different interests, feelings and motives of the children and juveniles, the teacher must make it clear that he is striving to see *their* phenomenal world through *their* eyes. This keeps the difference of interests or the conflict on a communication level at which open expression of the conflict in a non-authoritarian manner, i.e., on the verbal, rational level is most possible. The danger of an emotional escalation is thus reduced by this sort of teacher behaviour. An open and sincere presentation of the teacher's personal feelings and problems in the particular conflict situation is further desirable. The teacher should, for example, talk about the duties which are imposed on him and make it clear that he is sometimes obliged to fulfill certain duties with which he is not in agreement. Through self-exploration he should make his personal difficulties and problems clear to the children. This helps the pupils to see that the teacher is not perfect, that he has faults too and that he is sometimes forced by external pressure to act against his own better judgement. The teacher reduces his own authority and expresses the desire to enter into partnership with his pupils, for the resolution of conflict.

Finally, a rational structuring of the conflict situation is necessary ; an attempt should be made to verbalise the conflict by stating the opposing interests of the teacher and the pupils, and to cooperate in seeking a just solution. Further, the conflict and the necessity for resolving it must be discussed and in this discussion the educator must show that he believes the conflict to be capable of resolution.

If rational rules have already been worked out unanimously between teacher and pupils for the solution of this sort of conflict, the teacher

must point out that the rules must now be consistently applied. If the rules are then seen to be inadequate, they must be changed.

It must, therefore, be made quite clear that 'understanding', 'empathy', 'warmth' and similar variables of non-authoritarian educator behaviour are not synonymous with 'inconsistency'. Precisely because external pressure is removed in non-authoritarian education, it is essential to meet the demands of social life through the practice of self-discipline and consistent social behaviour if unnecessary conflicts are to be avoided.

2.4. Characteristics of the Dimension 'Directivity' vs. 'Laisser-faire'

The centuries-old belief that in effective education the behaviour experiences of the children must be guided and led by the adults was shaken in the last decades. It is, of course, not possible to remove from adult life all instances of directivity or control of one human being by another (e.g. in hospitals and factories), but it is still a worth-while aim of reform to reduce this directivity and control as far as possible. In education in particular, this end can be achieved to a degree that traditionalist educators would consider impossible.

According to HARRIS and FLEISCHMAN (1962), the emotional dimension is probably more significant than the directivity dimension. On the other hand directive behaviour in teachers can more easily be changed by external measures than can emotional behaviour. Directive behaviour can also more easily be learned from examples because it is more easily observable. Finally, the dimension directivity and control is related to the sense of individual freedom.

At certain stages in their lives, this sense is more significant for juveniles than the sense of good emotional relationships with other people. Some investigations further showed that teachers and educators cannot show suitable emotional behaviour towards the young people unless they also reduce the relatively high degree of their leading behaviour (TAUSCH and TAUSCH, 1977).

Guidance/Direction/Control in Lessons

Commands and orders are the favourite means of guiding and directing pupils. An average of 50-60 commands and orders on the teacher's part have been recorded for a lesson of about 45 minutes,

and a further 17 orders that pupils should finish sentences begun by the teacher. But there was considerable variance in the number of orders issued by different teachers.

TAUSCH, TAUSCH and FENNER (1969) could observe no relationship between the frequency of orders by the teacher and the age, sex, academic grade, or subject of the teacher or the age of the pupils.

Where commands are frequently issued by the teacher, the following effects are produced :

- a considerable degree of tension and opposition ;
- dependent, passive behaviour ;
- low frequency of independent decision making ;
- reduction of spontaneous, original, creative, intuitive, behaviour ;
- higher degree of external order and strict discipline ;
- frequent observation of a model (person) with commanding behaviour.

Very frequent teacher questions have an undesirable effect in that they tend to reduce the number of questions asked by the pupils (to about 2 or 3 a lesson). Further results of frequent teacher questions are :

- fear of or antipathy towards school on the pupils' part ;
- a tense classroom atmosphere,
- inhibition of individual thought and other detrimental effects.

A high proportion of teacher speech communication results in a low degree of pupil speech communication (one-word-sentences).

Conclusions

Strongly directive teacher-behaviour generally results in

- low motivation on the pupils' part ;
- a greater degree of inner tension ;
- often receptive and reactive behaviour ;
- weakness in concentration ;
- a tendency to rebellion and frequent upsetting of lessons,
- and tendency to conformist thought.

It is unlikely that certain aims of school education (cf. section 1), such as emotional maturity or the realisation of a humane attitude will be achieved with such strongly directive teaching behaviour. The pupils' undesirable imitation learning of strongly directive behaviour

leads to destructive effects to emotional immaturity, lesser spiritual health and an increase of psychoneurotic behaviour patterns.

For these reasons, a reduction of guiding and directive behaviour in lessons seems desirable, in order to advance the social and emotional behaviour of the young people as well as to facilitate the achievements of the aims of the lesson and to reduce the burden on the teacher.

A very good concrete possibility is the organisation of small group activity instead of a formal whole-class lesson: within a lesson period, 3-4 pupils sitting at a table work once or twice for 5-10 minutes each at a specific problem, often set by the teacher. This cooperative group activity has been shown to be far more satisfactory (PORTELE, 1970). The same pattern can be employed in university seminars or in lectures.

The teacher is in an equal position if a seating-arrangement in a circle replaces the teacher's special position in front of the class. According to HOWLES and BECKER (1962), this change of the seating position alone produces a reduction of guiding and directive behaviour on the teacher's part.

3. A MODEL OF TEACHER TRAINING TO PROMOTE DEMOCRATIC TEACHING BEHAVIOUR

3.1. On the present situation of teacher training

Not only in the school can marked discrepancies be observed between the demands of western societies to be structured according to principles of freedom and democracy on the one hand, and the actual behaviour and attitudes of their members on the other. It must, therefore, be one of the chief tasks of education in the future to reduce significantly this discrepancy. This involves the necessity for educating as many individuals as possible and training them in prosocial and democratic behaviour which can be realised particularly in conflict situations. The school is especially suited for this purpose, since all individuals can be influenced over several years in school, the teachers as 'multiplicators' can be given a relatively unified (and very effective in the long-term view) training to this end.

The teacher education of the majority of presently active educators has not devoted a single hour to systematic training in suitable social

behaviour. Political and social events of the present day and of the recent past have shown that the transmission of knowledge and professional ability must not be the only duty of the teacher. Even where 'technocratic' arguments are used to demonstrate the prior importance of the transmission of knowledge, it is still clear that whenever knowledge is transmitted, social behaviour is transmitted at the same time. Conflict situations can no more be excluded in school (between teacher and pupil) than they can in any other area. Teachers straight out of university, however, are often hardly prepared for such situations. They have not been trained in the desirable types of behaviour and so they resurrect the sort of behaviour that they once learned in school : and this sort of behaviour is, for obvious reasons, in many instances autocratic and authoritarian.

3.2. Methodological Considerations Concerning Teacher Training

The basic theoretical model was explained in the Introduction, and educational aims were defined in Section 1. If prosocial and democratic attitudes and behaviour are to be furthered, it follows that the methods employed must be equally democratic. Otherwise a discord between theory and practice will arise which will inhibit the learning process. This fact must influence the 'trainers' attitude.

The structuring of a training unit into the following three steps appears to be motivating and promoting the participants' autonomy. (1) Individual work : Each participant expresses his opinion on a problem situation in class and what he considers to be a desirable teacher reaction to it ; this will be recorded verbatim on tape or video-tape. Participants thus feel personally involved and are more strongly motivated to pursue the attitudes and opinions which they have expressed and to take an active part in the discussion.

(2) Small discussion groups, each with 4-6 members, should be organised (PORTELE, 1970) so that spontaneous discussion and evaluation of individual opinions may take place quite independently of the trainer. The activity level of individual participants is significantly raised in the small-group system. At the same time, dependence on the trainer and directive action by the trainer are reduced. The confrontation with other opinions tends to make

participants less certain of their own views and helps them to see things from a new standpoint.

(3) The results of the small groups are reported and compared in the plenary session. A critical discussion of the alternatives might follow : similarities and differences of the proposed teacher reactions are reviewed.

This principle of combinining individual, small-group and plenary work has proved to be very helpful for an independent, creative and autonomous learning climate.

3.3. A model conception of teacher training

3.3.1. Stage I : Pre-test and Training in Differentiation of Social Perception

According to the model of a learning system presented in the introduction of part I, first the attitudes, behaviour and level of knowledge of the participants are to be assessed, so that he effects of the training can be established through comparison with the post-test. At the same time, the difficult teacher situations in the pre-test give the participants an impression of the training-units used in the programme.

R. and A. TAUSCH (1977) mention the following possible patterns of training in differentiation of perception :

– *Life-demonstration or video-recording* of 'democratic', 'socially integrative' teaching behaviour which leads to the 'learning and realisation of emotionally mature and democratic behaviour in adolescents'.

In order to show the variance in teaching behaviour, it further seems necessary to give examples of authoritarian teaching behaviour and perhaps also of the laisser-faire attitude. This will weaken the pre-conceived belief in the uniformity of teaching behaviour and will pave the way for a differentiated perception. Additionally, 'normal' teacher-behaviour could be analysed as to democratic, authoritarian and laisser-faire characteristics.

– The participants are presented with a number of *statements made by teachers in real teaching situations*, e.g. :
'Come on David, don't take all day ...'

'The ladies haven't got anything to say for themselves again ...'
'Don't you agree with that ?'
Various *rating-scales*, with a range between — 3 and + 3, are used to evaluate the social character of these statements. These scales may, for example, be concerned with the following aspects of social interaction :
– Does the statement indicate a low (— 3 to 0) or high (0 to + 3) estimation/appreciation on the part of the educator ?
– Could the statement be used as a model for suitable social behaviour on the part of the adolescents ?
(Reversibility or irreversibility of the statement).
– Is the statement more encouraging (+ 3 to 0) or discouraging (0 to — 3) ?
– Does the statement encourage (0 to + 3) or discourage (0 to — 3) independent pupil behaviour ?
When the statements have been evaluated by the individual participants, small groups are organised to *discuss the various ratings*. On the one hand, this will produce a certain uncertainty, but on the other a greater sensitivity for the different perceptions of the same statements by the teacher's colleagues.

– The teacher training participants then receive a *systematic training*. The individual scales (high/low estimation, reversibility/irreversibility, encouragement/discouragement, furthering of independence/dependence) are clarified point for point with reference to concrete teacher-statements, such as the following examples connected with high estimation by the teacher :
Teacher Z : 'You wanted to say something else ?'
'That was quite difficult for you, I guess ?' 'Now I suggest that you go outside for a break if you like.' 'Do you agree with that ?' (Examples from TAUSCH, 1977).

A *mean evaluation* can then be drawn from the sum of individual evaluations of the various teachers. The participants are also informed of the results of an *expert-rating* of the teacher in question, which provides them with a feed-back.
There follow some examples of low estimation by the teacher :
Teacher W : 'Shut up !' 'Outside the door !' 'I really don't care, write it as you want – may be with "ph" .' 'I suppose you think you don't

need to work any more, just because I told your mother you were getting on alright.' (cf. TAUSCH and TAUSCH, 1977).

– When the individual rating scales have been clearly defined with concrete examples, and the participants have been given the opportunity for perception differentiation through feed-back, *more complex examples of teaching behaviour* (life-demonstration or video-recording) will be rated on individual scales in terms of particular characteristics as listed above. The two main dimensions of teaching behaviour (directivity/control and emotional acceptance/ warmth) are also evaluated.

It further seems necessary that the *communication behaviour of the teachers* is rated. In experimental studies carried out at Stanford University and by LANGER (1971), it was indicated that the *comprehensibility* of the teaching material depends on the following four factors :

(1)	SIMPLICITY (simple, comprehensible expression ; clear ; concrete ; familiar words)	vs.	COMPLEXITY (complex expression, difficult to understand ; unclear ; abstract ; unfamiliar words)
(2)	CLEAR STRUCTURE (ordered, clearly arranged ; one knows where one is going ; never loses the thread)	vs.	LACK OF STRUCTURE (disorderly, confused ; one never knows what belongs where)
(3)	BREVITY, PRECISION (brief ; precise ; restricted to the essential)	vs.	VERBOSITY (long-winded ; a lot of talk about nothing)

Only in the presence of simplicity, clear structure and brevity/ precision, can this next (fourth) factor also further comprehensibility of the teaching content :

(4)	STIMULATING (interesting presentation of material, e.g. comparisons, examples, etc., to arouse motivation)	vs.	DULL (sober; dry and factual; neglects attempts to arouse motivation; probably boring)

3.3.2. Stage II : Self-Experience Training

The differentiation of the social perception achieved by means of the exercises listed in 3.3.1 must, necessarily be expanded through self-experience training. Particularly suited to this are exercises with every-day conflict situations in the field of school education, in which teachers find it hard to show fitting and constructive behaviour.

In order to increase the participants' motivation, it is advisable to form small groups, in which the teachers' *personal experiences of every-day conflicts* with the pupils can be described.

TAUSCH (197/) gives the following examples :

– In a seventh-year physical education lesson, a girl refuses to do an exercise.

– During a maths-lesson in the second year, the pupils do not wait to be invited to give their answers. They snap their fingers or stand up, and one girl shouts out her answers.

– One child comes crying to the teacher because the other children will not let her play with them.

The members of the group first write an *anonymous account of their own actual behaviour* in such a situation, trying to reproduce as faithfully as possible their verbal reactions in the situation. They are then asked to use their knowledge to describe what they consider to be the ideal teacher behaviour in this situation – whether or not this corresponds to their own actual behaviour. Both types of answers, those relating to the actual and those depicting the 'ideal' teacher behaviour, are discussed in small groups. The congruencies and dissimilarities of the statements are consciously perceived and their social quality is likely to be judged according to the social interaction scales and the dimensions of social behaviour listed above. In case the small groups are dealing with the same conflict situations, the discussion results and experiences of each group can be reported during the plenary session. Thereafter the seminar could discuss the

solutions proposed by the groups and may end up with verbal reactions for each of the specific conflict situations which have model character.

It was found in most of our teacher-training seminars that quite *different spontaneous verbal reactions* are given in the small groups. Thus, for example, the following verbal reactions were made in a small group dealing with the situation where a child comes crying to the teacher because the others will not let her play with them (cf. FITTKAU, 1971) :

Teacher A. : 'You aren't a baby any more ; you've got to find your way yourself. Besides, the others may have their reasons why they won't let you play with them.'

Teacher B. : 'I can't help you ; it's not up to me !'

Teacher C. : 'I think you should ask yourself why the others don't want to let you play with them.'

Teacher D. : 'It's annoying when you want to play ball and the others won't let you play with them. I'll try to help you. Let's think what we can do.'

If these four reactions don't remain anonymous (as they should in the initial phase, so that participant motivation is enhanced), each of the four teachers will first try to justify and explain his reaction. The discussion of alternative reactions necessarily leads to *reflection on the participants' own behaviour*. Many group members are dissatisfied with their own reactions at the suggestions of the other group members. This arouses the desire to behave more suitably in socially difficult situations. The participants look for means of deciding and evaluating which will help to show with more certainty which behaviour is better and which worse. They may thus use the evaluation scales for social behaviour to rate their own reactions. But besides this, the teacher trainer(s) [1] will propose a whole series of aids to decision and behaviour in connection with the following two main questions are important :

– 'What an effect does the teacher behaviour have on the person in question (here, the child who cannot play with the others) and what kind of feeling is aroused in the child ?'

1. 'trainer', 'moderator', 'facilitator' and 'teacher trainer' are used synonymously.

– 'What are the probable feelings of the teacher who reacts in this way (especially towards the particular child) ?'

The *comparison between the 'actual' and the 'ideal' behaviour* gives each participant a good learning opportunity : he can compare his subjective 'actual' rating with the 'actual' ratings of the other group members and with his own and their 'ideal' reactions. In order to avoid discomfort for the individual as for as possible, the 'actual' data (probable actual behaviour) should remain anonymous, while the 'ideal' reactions must be subjected to critical discussion and consideration. (This applies at least to the beginning of a training seminar). Through comparison of anonymous 'actual' answers, the participant realise how similar their problems are and how difficult they all find it, to achieve more optimal behaviour in conflict situations. This reduces the discomfort and the danger of discouragement for the individual and produces a better group atmosphere.

In general, the participants accept the question about the *effects of different social behaviour* in the same social situation as an aid to judging the suitability of teaching behaviour. It is therefore useful to ask the participants to put themselves into the child's place and to describe the feelings that each of the teacher reactions A to D would probably arouse in the child. In our example, only reaction D produces the sort of feelings in the child which most participants consider desirable.

This beginning unit in the training by self-experience attempts to make the participants more sensitive to the feelings of the pupils through questions about the effects of different types of teacher behaviour. A desire for further experiences was frequently expressed at this point in our teacher training seminars, and psychodramatic *rôle-playing* or *simulation* games took place.

Role-playing offers extensive possibilities and is capable of many variations. Firstly, each participant can get feedback from the other members of the group about the effects of his own behaviour ; further, it is possible to discover more clearly the rôle-dependence of one's own behaviour and to gain deeper self-insight through (for instance) the exchange of rôles : e.g., 'How does teaching behaviour like mine affect the child whose rôle I am now playing ?'

Micro-teaching offers a special form in relation to the discovery of suitable teaching behaviour, therefore this matter will be examined in detail in an excursus (cf. 3.3).

This described unit can also do much to further sensitisation to the teacher's own feelings and emotions. The teachers will learn from the example given above that there exists a very close relationship between the (usually unconscious) feelings of the teacher and the immediate reaction of the pupil. Thus the teachers learn, for example that appropriate teacher behaviour can be achieved only through a change in the teacher's attitude to the pupil.

Feedback is very helpful for self-experience learning. A very simple, however very effective procedure, is the self-confrontation : a trainee is just listening to a tape recording of a class he was teaching, or he is watching a video-tape of his teaching. In addition, other trainees might give him feedback as to his teaching behaviour (direct feedback) or as to the feelings probably aroused in his pupils (indirect feedback). Since feedback from others might the beginning trainee make feel tense or even arouse anxieties, the mere observation of one's own teaching behaviour all by oneself seems to be advisable in the beginning phase of a teacher-training. This could, of course, also be done as a preparation for a teacher-training as well as classroom observations of colleagues and subsequent feedback on teaching behaviour.

3.3.3. Stage III : Behaviour Training

When the participants have been made more sensitive through training in perception differentiation sensitisation can be strengthened through self-perception. Then a systematic training in teacher behaviour (discussion behaviour and social behaviour) can be commenced.

The following aspects are important for rôle-playing :

At least two group members should carry out the same exercise at the same time, so that the rest of the group who are observing shall be able to make a comparison, which can contribute to perception differentiation through learning by experience.

In order to reduce lack of understanding and to increase sensitivity or empathetic understanding, it is desirable for the observers (and the teachers when the report, e,g, video-recording, is being given) to

verbalize the feelings involved in the given situation (e.g. conflict situation). When the participants in the training verbalise the pupils' feelings, the interdependence of teacher and pupil reaction becomes very clear.

It further relieves the participant of a burden and helps him when the emotions of the teacher in the given conflict situations are verbalised, not only by the observing participants but also by the teacher actually involved in the rôle-playing or the training situation. Considerable learning possibilities arise, involving sensitisation of the teacher and observing participants, because the teacher's verbalisation of his own emotions (self-rating) is compared with the rating by the observers.

However, the verbalisation of, for example, an angry or aggressive attitude towards the pupil enables both a distanced perception of the teacher's own reaction and an objective rating of the possible effects of unsuitable teacher behaviour.

It has also been shown to be helpful to integrate the comparison of actual and ideal teaching behaviour in rôle-playing. The same participant presents both actual and ideal teacher behaviour for the conflict situations dealt with in the rôle-playing, and it is thus possible to judge the capacity for change which the individual participant has in his behavioural repertoire. Further, the observing participants can objectivise for the participants involved in the rôle-playing the differences which come to light. Discussion and critical comparison of the teacher reactions regarded as 'ideal behaviour' is also of considerable training value in that it serves to operationalise the establishment and achievement of educational aims. The educational aims presented in part 1 are made more concrete and brought closer to direct experience.

Ideally, the behaviour samples should be recorded on video-tape, since this provides the participants with immediate objective feed-back about their behaviour. But tape-recordings (despite the loss of visual information) are also valuable as feed-back. The written record of verbal expression brings a greater loss of objectivity, because a high degree of selection is involved, but even this form of feed-back offers various learning opportunities through the presentation of divergencies and the confrontation of different points of view.

The introduction of the 'Alter Ego' provides an optimal training opportunity, both with regard to the verbalisation of emotions and to the presentation of the inter-dependence of teacher and pupil reactions. In the rôle-playing, a second person is placed behind one, several or all of those taking part, and this second person must express the true feelings, attitudes and thoughts of the person in front of him. For example, if the teacher tells the pupil : 'Think why the others won't let you play with them ; they must have their reasons.', the Alter Ego can add : 'It's your own fault ; it serves you right if the others give you what you deserve'. The basic aggressive, punishing attitudes and feelings of the teacher are thus brought out through the Alter Ego.

Psychodramatic representation in rôle-playing, where the participants take their own rôles or those of the pupils, can make the teachers conscious of their own spontaneous behaviour. Above all, it is easier for the teacher to understand the pupil's feelings and reactions when he puts himself into the pupil's rôle. In our training seminars it was very often shown that in this way the therapeutic effect of explicit verbalisation of understanding could be made clear. The girl of our example feels that she is understood and accepted in this harassing situation. But as stated above, the verbalisation of understanding in no way precludes the possibility that necessary social norms and technical demands will be observed ; these are more acceptable for the pupil when they are not imposed autocratically by the teacher. Therefore training in helpful communication, i.e. conversation forms which verbalise the expression of understanding, is of central importance in experience training according to R. and A. TAUSCH (1977). Anticipatory experience training must develop into a constant assessment of the social and instruction behaviour himself and by others. Self-assessment and assessment by others of the actual teaching behaviour can be indirectly drawn from the pupil's reaction, e.g., from their constructive or destructive social behaviour, their productive or unintersted attitude to work. Additionally, the pupils (and eventually colleagues) should be asked to give feed-back as to the social and teaching behaviour.

The behaviour of the moderator ('trainer') must reflect the aims of the seminar. Apart from his organisational tasks, he must take care that his behaviour presents 'a model of desirable social, emotional,

intellectual and teaching behaviour' (TAUSCH, 1977). He must show minimal directivity and control and express maximal appreciation, emotional warmth and acceptance towards the participants. This applies particularly to situations where individual participants emotionally refuse to carry out or take part in the necessary exercises, or where individual participants defend autocratic positions. It is then his task to keep emotional calm and security and, when possible to verbalise his understanding for the participants' reaction, in order to promote an 'emotional desensitisation' and a technical solution of this conflict situation within the seminar.

Characteristics of Micro-Teaching

The development of Micro-Teaching stems mainly from Stanford University USA (ALLEN and RYAN, 1969). Independently of this, ZIFREUND (1968, 1970) develop a comparable process for teacher training in the Federal Republic of Germany.

The basis of Micro-Teaching is the assumption that particular behaviour patterns are essential to an effective teaching unit, and that such skills can be systematically trained. The significance of feed-back for the motivation and facilitation of behaviour changes, so often emphasised above, has been demonstrated in innumerable studies and cannot be sufficiently stressed (e.g. B. KAGAN, 1967, GEERTSMA and MACKIE, 1969 and ONDER, 1970). Micro-Teaching can usefully be introduced into advanced teacher training, since it offers better learning conditions than the traditional form of teacher training by school-practice. The advantages are as follows :

– Micro-Teaching is carried on in a 'laboratory situation', in which the trainee is not immediately confronted with practical problems, but can collect learning experience before entering the actual lesson process in the school. Instead of over 30 students he teaches a small group of three to six students or pupils.

– The trainee is not burdened with a whole lesson period, but gives a small teaching unit (a 'micro-lesson') which lasts about 5 or 20 minutes.

The training situation is less tense ; the new teacher is not burdened with content problems, and is free of the inhibitions which can result from fear of criticism by observers or tutors.

– He does not get so out of his depth, because he does not have to

realize a whole complex of teaching skills at once. Rather he can concentrate on the one or two skills which are being practiced in the particular teaching unit (e.g., presentation techniques, question and discussion techniques, empathetic understanding, active listening).

– A decisive advantage of this system over other processes is that it affords the trainee the opportunity to repeat a teaching experiment under very similar conditions. It is thus possible for him to find out directly what emotions produce changes in his teaching behaviour, and this increased openness also makes him more able to carry out changes in his behaviour.

In preparation for the teaching experiment, the aspect of teaching behaviour which is to be practised is discussed and then integrated in a teaching unit of a few minutes' duration. Besides the 14 didactic techniques developed by ALLEN and RYAN (1969), the aspects of teaching behaviour mentioned by TAUSCH (e.g. verbalisation of understanding, realisation of respectful behaviour, encouragement of independence) can, of course, also be trained in this way.

The teaching experiment is recorded on video-tape. The students and the moderator can follow the course of the experiment either on a monitor or in the room itself. The video-recording is then played back and analysed as regards the behavioural aspect concerned. The trainee develops independently a second concept for his teaching experiment, using the suggestions made by the other participants and his own ideas for changes. He then begins a second attempt which is also recorded on video-tape ; he can choose the time for this second attempt himself.

The new teacher thus has at least one further chance to practice a particular type of behaviour in a comparable situation. The comparison of first and second attempt also makes it possible to conceive of teaching behaviour as always capable of being changed and to judge success in behaviour changes.

It seems to us that the showing of model films of particularly able teachers involved in the same teaching unit or of video recordings of the behaviour shown by other participants, is better than verbal suggestion of alternative types of behaviour.

'Simulated Social Training'

FLANDERS (1970) has developed a process for teacher training termed 'Simulated Social Skill Training' (SSST). In this process, student teachers practice 'social skills' in small groups, with particular emphasis on the improvement of communication techniques for the teacher. A variety of experience opportunities is offered in small groups of 4 to 6 members by the following rotation system : each group member in turn takes over the function of group leader (teacher), of group member (pupil) and of observer. After discussion of the skill being trained, suggestions for discussion subjects are collected which seem most relevant to the practice of the particular type of behaviour. Points of view for observation, methods of assessment, and ways of presenting the observations are established from the beginning. Each participant then chooses from the discussion subjects proposed one which interests him. The data collected from the observers are evaluated after the first training experiment, and suggestions are considered for changes in the second attempt.

In the training catalogue developed by FLANDERS, the skills to be practical are arranged in ascending order of difficulty. Relatively easy skills, such as questioning skill or closure skill, which are also used by ALLEN and RYAN (1969) in Micro-Teaching, are at the beginning. Moderately difficult skills are, according to FLANDERS, the ability to continue the pupils' ideas constructively, to integrate them in the discussion, or to relate them constructively to the ideas of other pupils. In SST, the teacher's ability to listen to the pupil and support his ideas becomes of central importance. As an example, the most difficult skill, which requires a high degree of social sensitivity and intelligence, must be introduced last. FLANDERS states clearly that his skill demands the teacher's attention and readiness to learn all his life : the ability to develop discussion rules with a group and to put them into effect, and at the same time to formulate clearly and to distinguish between facts, opinions and assessments.

Although we know as yet of no strict empirical evaluations of SSST, there is some evidence that training in these skills improves the teaching behaviour in didactic and social aspects.

Micro-Teaching in the FRG

The Micro-Teaching Project carried out by ZIFREUND in the Federal Republic of Germany (1970) basically supports the findings of the Stanford Experiments. This project differs from the Stanford Experiments in that, as SSST, groups of adults (students in training) are involved. Principally, such didactic skills are trained as :
– coherent verbal presentation and illustration of information ;
– encouraging pupils to work on information themselves and to initiate the discussion of problems ;
– organisation of group activity ;
– guiding a discussion even where the teacher has hardly any speaking time (perhaps with non-verbal signals) ;
– responding better to pupils' suggestions ;
– allowing the pupils to say all they want to say ;
– organisation and guidance of pupil – pupil-activities, so that they make a construtive contribution to the learning process in class.

Further aims of the training are relatively easy to establish, if one considers what a teacher most frequently does and what skills are therefore necessary for the satisfactory functioning of the teaching-learning processes in the classroom.

In sum, therefore, the following advantages of Micro-Teaching may be observed :
– The organisation and norms of Micro-Teaching as conceived by ZIFREUND contribute to the social and democratic education of future teachers.
– The reduction of pressure for results stimulates readiness to learn and reduces fear – and defence – reactions in the training groups.
– Since criticism is expressed only in the form of positive alternative suggestions, a positive group feeling is produced and the members are actively engaged and prepared to accept common responsibility for the training experiments in progress.
– More intensive verbal and emotional communication is made possible in group activity. A sense of self-sufficiency and personal responsability is encouraged by extensive independence of the trainer.

For further introduction into the classical forms of groupdynamic training, referencemay be made to the standard work by L. P. BRADFORD, J. R. GIBB and K. D. BENNE (1964), and the work of K. SPANGENBERG (1969).

3.3.4. Stage IV : Post Test

In order to assess the effects of the whole training programme parallel forms of the questionnaires tests given in the pretest are given again. It is advisable to have the tests evaluated by the participants themselves, since they can then, by comparing pre-test and post-test behaviour, see for themselves what progress they have made during the training. Learning results thus become more effective and motivation is increased. An optimal test is the comparison of actual teaching behaviour (pre-test and post-test) which is video-taped and rated by neutral expert observers. For scientific effect-control of the training, control groups must be established (comparable in every respect to the training group, except that they receive no training).

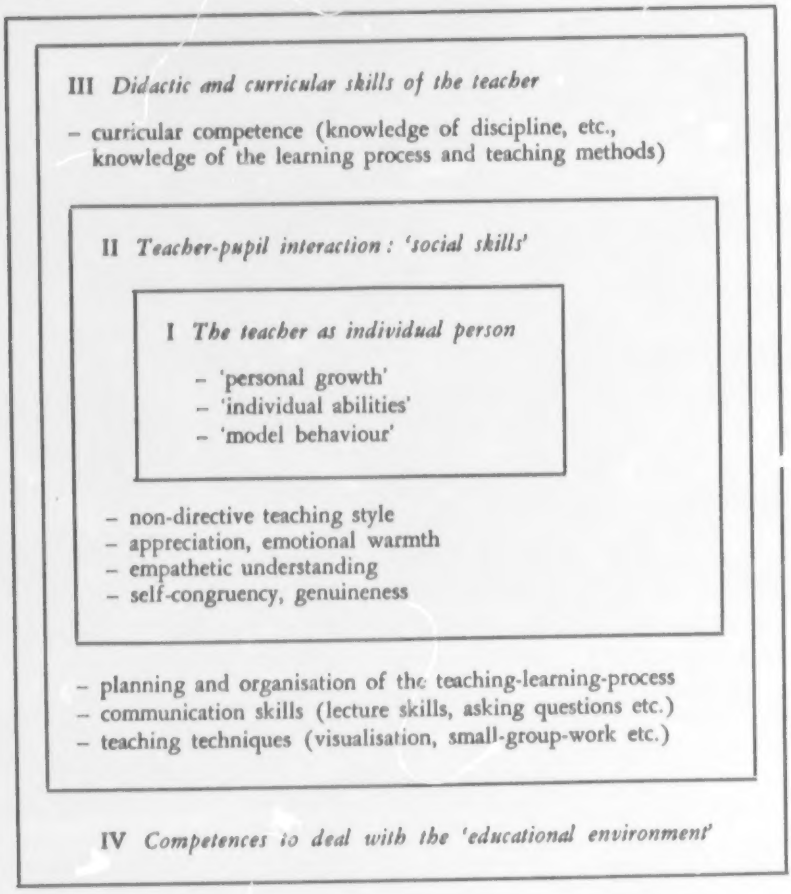
Finally, it must be noted that many of the training steps described here may be used for self-training in the same or a similar form. They may be used by individual teachers and teacher groups and for training with pupils. In any case, participation in corresponding group-dynamic training courses yields, if not an indispensable, at least a valuable pre-requisite.

3.4. Additional teacher training programs

The teacher training model lined out in part 3 is focussing upon interactive and communicative (social) skills. The objectives of this teacher training are the promotion of prosocial, non-authoritarian, democratic behaviour on part of the teacher ; the creation of a stimulating, pressure-free class atmosphere, characterised by a positive group feeling ; and the furthering of independent, socially mature, psychologically stable and self-conscious, creative pupil behaviour.

Teacher training or teacher education in a wider sense would include the following three aspects of diagram II :

Diagram II : *Three basic aspects of teacher training*


III Didactic and curricular skills of the teacher
– curricular competence (knowledge of discipline, etc., knowledge of the learning process and teaching methods)
II Teacher-pupil interaction : 'social skills'
I The teacher as individual person
– 'personal growth'
– 'individual abilities'
– 'model behaviour'
– non-directive teaching style
– appreciation, emotional warmth
– empathetic understanding
– self-congruency, genuineness
– planning and organisation of the teaching-learning-process
– communication skills (lecture skills, asking questions etc.)
– teaching techniques (visualisation, small-group-work etc.)
IV Competences to deal with the 'educational environment'

We consider a teacher education model as optimal which includes all three aspects and which renders additionally competences and skills as to (IV) :
– dealing with the school administration, educational agencies, political educational bodies, teachers' union, the community etc. ;
– cooperation with teacher colleagues (e.g., team teaching, interdisciplinary project work, curriculum development with teacher col-

leagues, cooperative planning of teaching processes etc., how to resolve conflicts among teachers, etc.) ;
– understanding the 'life-situation' of those to be taught (e.g., overcoming 'language barriers', problems of racial, religious or other minorities, economic problems, 'life concepts' and job situations of different groups in society, 'subcultures' of certain sociological strata, etc.).

The teacher training model we have described in this article is focussing on the improvement of teacher-pupil interaction (area II, in diagram II). Since-the consciousness on how teachers should teach and interact with their pupils is much further developed than their actional skills and their concrete teaching behaviour, this kind of training program is definitely to be considered as necessary. The complete teacher trainer program carried out by members of the Psychology department of Hamburg University and by some 12 educational and clinical psychologists of the 'Centre for Communication Training', since 1968 (originally influenced by R. and A. TAUSCH) includes :

(I) *Personal development*
– participation in 'basic encounter' groups
– self-experience groups, assertive programs
– sensitivity and relaxation trainings
– basic courses in counselling and conflict solution
– body awareness, meditation, participation in 'Gestalt-groups' etc.
– feedback on teaching behaviour from colleagues, pupils, observing parents, experts or teacher trainer
– basic courses in lecturing (clarity, structure, precision, organisation of material).

(II) *Teacher-pupil interaction*
In addition to the described 'interactive skills training program' (ISTP), which serves as a kind of 'basic training', are also offered :
– Trainings on spot, i.e., in the actual classroom situation (video-taping, interrupting the teaching process, replay and discussion of pupils, teacher and trainer) ;
– 'Class-trainings', i.e. all pupils of a specific class group (some 15-20) and their teacher participate in a weekend or week of training. discussing their problems and trying to solve them (cf. the article

of H.-M. MUELLER-WOLF in FITTKAU, B. *et al.*, 1977, pp. 156-210).
(III) *Didactic and curricular skills of teachers*
– In addition to Micro-Teaching and Social Simulated Skill Training (SSST), specific didactic trainings are offered, e.g. to teach certain subjects to specific groups of adult students, members of minority groups, handicapped children etc.
– Training courses in project work and interdisciplinary projects ; relating learning to the pupil and his every-day-life : basic principles of 'action research' and their equivalents in school learning processes, etc. ('searching learning').
– Training in complex lecture skills, group moderation, including didactic techniques (e.g., visualisation, hand-outs, structuring teaching contents, feedback-techniques etc.)
– Basic training in curriculum development, focussing upon social learning intrinsic motivation of students, and student-centered 'open' curricula, which are 'action-oriented' and not merely academic (action-reflexion-action-reflexion-...)
– Planning and organising the teaching-learning process : a problem-oriented course, which starts from the problem assessment of the participating teachers and tries to give individualised help concerning the internal and external organisation of the teaching-learning process.

While teacher education in most Western countries gives some help in curricular and didactic skills (III), little is done for the development of interactive and social skills (II) and for the personality development (I) of the teacher (-to-be).

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SUMMARY

The introduction describes a model of social and individual change which relates also to teacher training :
(1) Consideration of (educational) objectives
(2) Diagnosis of the actual situation (pre-test)
(3) Changing the actual situation into the desirable one (experimental influence)
(4) Feedback on desired change (post-test)

Part 1 deals with the aims of education and with the planning of the future ideal situation (the objective of teacher training) :
– 10 individual basic abilities/types of behaviour and
– 10 social basic abilities/types of behaviour
are listed which characterise the 'ideology' of this article.

Part 2 attempts a rough and general diagnosis of the actual situation concerning teacher behaviour in the Federal Republic of Germany and other Western countries :
– The different instruments for measuring educator behaviour are briefly described and discussed (2.1.)
– The major education styles are described, and research findings are presented (2.2.)
– The dimension 'Appreciation, Emotional Warmth, Affection' is characterised as to its effects upon children and adolescents ; basic research findings are reported (2.3.)
– The dimension 'Directivity and control' is equally described concerning its effects upon pupils (2.4.)

Part 3 describes a model of teacher training to promote democratic attitudes and teaching behaviour, i.e. to improve especially the interactive, communicative (social) behaviour of teachers :
– First, the present situation of teacher training (in the FRG and most Western countries) is described in general terms (3.1.)
– Secondly, in 3.2. some methodological considerations concerning teacher training are stated (individual work, small-group discussion, plenary session)
– In the main part (3.3.) a model conception of teacher training is presented ; the four phases include :
pre-test and training in differentiation of social perception (stage I) ;
self-experience training (stage II), including video-feedback, rôle play etc. :
behaviour training (stage III), including Micro Teaching and 'Social Stimulated Skill Training' ;
Post-test in order to control the training effects (stage IV).

Finally (in 3.4.), additional teacher training programs, are listed. Three basic aspects of teacher training are described :
(1) the teacher as individual person
(including his personal social and intellectual abilities, personal development and 'personal growth')

(2) the teacher-pupil interaction
(this is the focus of the training model described in this article)
(3) the didactic and curricular skills of the teacher
(this is often the focus of teacher education in Western countries, however, mainly on a theoretical level).

Furthermore, it is pointed out that the teacher requires a set of cognitive and social (behaviour) competences to deal with the 'educational environment', e.g. parents, colleagues, administration, community etc.

ZUSAMMENFASSUNG

In der Einleitung wird ein Modell sozialer und individueller Veränderung beschreiben, das mit seinen 4 Stufen auch für Lehrertraining gilt :
(1) Reflexion der (pädagogischen) Ziele bzw. der Soll-Werte
(2) Diagnose der Ist-Situation (Vorher-Test)
(3) Beeinflussung der Ist-Situation in Richtung auf die Soll-Situation (z.B. durch Training)
(4) Einschätzung der Zielerreichung (ob und wie weit) im Nachher-Test

Abschnitt 1 behandelt die Erziehungsziele, die Planung des (u.a. durch Lehrertraining anzustrebenden) Soll-Zustands :
– 10 individuelle Grundfähigkeiten/Verhaltensweisen sowie
– 10 soziale Grundfähigkeiten
werden beschrieben. Aus ihnen geht die „Philosophie" bzw. „Ideologie" des Artikels hervor.

In Abschnitt 2 wird versucht, eine überblicksartige, allgemeine Einschätzung des Lehrverhaltens in der BRD und anderen westlichen Ländern zu geben :
– Messinstrumente zur Erfassung von Erzieherverhalten werden kurz dargestellt und diskutiert 2.1.
– Die verschiedenen Erziehungsstile werden beschrieben, und einige wesentliche Forschungsergebnisse dazu werden angeführt (2.2.).
– Die Dimension „Wertschätzung-emotionale Wärme-Respektierung" wird hinsichtlich ihrer Auswirkungen auf Kinder und Jugendliche dargestellt ; wesentliche Forschungsergebnisse werden zitiert (2.3.).
– Entsprechend wird die Dimension „Lenkung-Kontrolle" hinsichtlich ihrer Auswirkungen auf Kinder und Jugendliche beschrieben (2.4.).

Abschnitt 3 enthält ein Modell für Lehrertraining zur Förderung demokratisch-partnerschaftlichen Lehrverhaltens ; dabei sollen demokratische Einstellungen sowie schüllerzentriertes, durch Echtheit, Einfühlung und emotionale Wärme gekennzeichnetes Lehrverhalten gefördert werden :
– Zunächst wird ein allgemeiner Überblick über die Lehrertrainingssituation (in der BRD und den westlichen Ländern) gegeben (3.1.).
– Anschliessend (in 3.2.) werden einige methodische Überlegungen zum Lehrertraining dargestellt (Wechsel zwischen Einzel-, Kleingruppen- und Plenumsarbeit).

– Im Hauptteil (3.3.) wird das Lehrertrainings-Konzept beschrieben ; die vier Phasen sind :
Vorher-Test und Training in Wahrnehmungsdifferenzierung bzw. Sensibilisierung (Phase I) ;
Selbsterfahrungstraining (Phase II) mit Video-Feedback, Rollenspiel etc. ;
Verhaltenstraining (Phase III) mit „Micro-Teaching" und „Social Simulated Skill Training" ;
Nachher-Test zur Erfassung der Trainingsauswirkungen (Phase IV).
– In 3.4. werden schliesslich weitere Elemente von Lehrertrainingsprogrammen dargestellt. Drei (sich überlappende und ergänzende) Trainingsbereiche werden beschrieben :
(1) Der Lehrer als Person
(mit persönlichen Merkmalen, seinen sozialen und wissensmässig-intellektuellen Fähigkeiten ; hier gibt es um Sensibilisierung, Selbsterfahrung und verschiedene Formen der „Persönlichkeitsentwicklung").
(2) Schüler-Lehrer-Interaktion
(dies ist der Schwerpunkt des in diesem Artikel beschriebenen Trainingsansatzes).
(3) Didaktische und curriculare Fähigkeiten das Lehrers
(ein Schwerpunkt der herkömmlichen Lehrerausbildungs allerdings oft bis meist und theoretisch und nicht als praktische Ausbildung).

Ausserdem wird auf wesentliche soziale und aktionale Fähigkeiten des Lehrers hingewiesen, die für eine wirkungsvolle Auseinandersetzung mit der „Erziehungs- und Schulumwelt" von Bedeutung sind (z.B. Elternarbeit, Arbeit mit Kollegen, dem Gemeinwesen, im Lehrerkollegium etc.).

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DEVELOPMENT OF PRENUMBER CONCEPTS AMONG THREE-YEAR-OLDS

by

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(State University of New York, U.S.A.)

Three-year-old Danny can count to five and adults are delighted even though ability to recite number names like a nursery rhyme does not mean that the child has the concept of number. Danny may be able to count to five but the chances are that he cannot count out five cookies, or tell you that five is one more than four, or that a set of five objects still has five objects in it when those objects are rearranged.

For some reason, the counting ability of a three-year-old causes greater excitement among adults than does his correct use of mathematical terms like 'taller' and 'heavier', rather than 'bigger', as he compares himself to his younger brother. However, it must be remembered that mathematics is concerned with relations between sizes and quantities. Therefore, it is more important that the very young child be provided experiences which will develop his understanding of such relationships as 'is heavier than', 'is shorter than', and 'holds as much as', and which will, at the same time, extend his vocabulary so he can express the relationship between different quantities, different sizes, and different volumes with greater precision. Experiences to develop prenumber concepts like these are essential if the groundwork for a solid grasp of the concept of number is to be well laid.

PURPOSE

The purpose of this investigation was to find answers to the following two questions: (1) What prenumber concepts do three-year-olds possess ? and (2) Can an informal but sequential program

of experiences in a school setting be more effective than the home in fostering the development of such prenumber concepts as the following :

(a) long, longer than, longest, as long as ;
(b) short, shorter than, shortest, as short as ;
(c) tall, taller than, tallest, as tall as ;
(d) many, more than, most ;
(e) few, fewer than, fewest, as many as ;
(f) heavy, heavier than, heaviest, as heavy as ;
(g) light, lighter than, lightest, as light as ;
(h) holds more than, holds less than, holds as much as, holds the largest amount, holds the smallest amount,
(i) the smallest amount, the most, as much as (mass).

PROCEDURE

To obtain some answers to these questions, a study was conducted with a sample of 24 three-year-old, all of whom came from middle-class homes where one of the parents was a member of the local college staff. These children were grouped with respect to sex and then randomly assigned to either the Experimental Group which would attend school, or to the Control Group which would remain at home for the year. Each of the groups thus formed consisted of six boys and six girls. The range of intelligence quotients in the Experimental Group was 96-127 with a mean of 109.6 ; and in the Control Group, 90-128 with a mean of 107.1. Analysis of variance indicated no significant differences between the two groups in this respect.

The next step was to administer the Test of Prenumber Concepts which was especially prepared to assess the concepts possessed by the three-year-olds. Parts A, B, C, and D of the test, which were nonverbal in nature, consisted of 24 items like the following :

Item #3 *Materials :* One tower made of 3 interlocking blocks and another one made of 8 interlocking blocks.
Examiner says : Here are 2 towers. One is tall and one is short. Which one is the *tall* tower ? Point to it.
Item #14 *Materials :* 3 pieces of rope – a 3-ft. length, a 2-ft. length, and a 1-ft. length.

Examiner says : Which is the *longest* piece of rope ? Point to it. The 24 items were administered individually early in November. Means of 14.8 and 12.1 were attained by the Experimental Group and the Control Group respectively. The range of scores in the Experimental Group was 9-20 ; in the Control Group, 5-18. Analysis of variance indicated no significant differences between the two groups ($F = 2.767$, n.s.).

An analysis of correct responses to the test items was made. Results are presented in Table 1.

TABLE 1

Item Analysis of the Test of Prenumber Concepts (Parts A-D) Showing Percent of Correct Responses in November

	Item	Concept	Percent of Correct Responses	
			Exp. Gr.	Control Gr.
P	1	many	83 %	83 %
A	2	long	100	75
R	3	tall	83	75
T	4	heavy	50	25
	5	holds more	67	50
A	6	more play dough	100	83
P	7	few	33	42
A	8	short (horizontal)	67	75
R	9	short (vertical)	83	75
T	10	light	33	8
	11	holds less	50	50
B	12	less play dough	42	42
P	13	most	75	17
A	14	longest	83	75
R	15	tallest	83	58
T	16	heaviest	8	17
	17	holds the most	83	58
C	18	most play dough	58	42
P	19	fewest	25	33
A	20	shortest (horizontal)	67	58
R	21	shortest (vertical)	58	50
T	22	lightest	17	8
	23	holds the smallest amount	50	33
D	24	smallest amount of play dough	75	67

It is interesting to note that both groups were more successful with Part A items involving such ideas as 'many', 'heavy', and 'more play dough' than they were with Part B items involving the opposite ideas of 'few', 'light', and 'less play dough'. Similarly, more success was experienced with Part C items involving such ideas as 'most', 'longest', and 'tallest' than with their opposites in Part D. The poorest results for both groups were with simple concepts related to weight – 'heavy', 'light', 'heaviest', 'lightest'.

This initial testing was followed by a 7-month experimental period. During this time, the Control Group remained at home, coming to school only for testing sessions. In this way the extent to which three-year-olds acquired important prenumber concepts in the home environment without benefit of special instruction could be studied. Meanwhile, the Experimental Group participated in an informal, systematic program designed to extend the development of prenumber concepts. Instructional sessions, lasting about 12 minutes, were conducted four days a week with groups of three children at a time.

The focus of the instructional sessions was upon sorting activities. Without ability to differentiate and grade quantities and sizes, success with the concept of number cannot be expected. Piaget's investigations suggest that the ability to classify is one vital prerequisite for the formation of the concept of number. Thus, sorting activities, as beginning experiences in classification, were provided to help the children become aware of differences and similarities in properties of objects and sets. The sorting activities were accompanied by discussions to encourage the children to abstract the relationships and to give opportunities to use relational terms for, without adequate vocabulary, comparisons are impossible.

A list of the various types of activities provided for the Experimental Group follows.

Set A

1. Sorting two sets of objects, when the objects were :
a. similar except for color
b. similar except for size
c. similar except for length
d. similar except for height
2. Sorting all of one kind from a container holding 3 or more different types of objects.

3. Matching objects of one set with those of another set. This one-to-one matching was done with objects which were :
a. similar in all respects
b. similar except for color
c. similar except for size
d. similar except for length
e. similar except for height
f. differing in all respects
4. Sorting sets as to those having *more* objects and those having *fewer* objects.

Set B

1. Sorting for *heavy* and *light* when
a. the containers were similar in all respects but contents
b. the larger container with its contents was heavier than the smaller container with its contents
c. the smaller container with its contents was heavier than the larger container and its contents
2. Sorting objects as to those *lighter than, heavier than,* and *just as heavy as* a given reference object.
3. Sorting two objects for *heavy* and *light* by placing them on a balance.

Set C

1. Sorting blocks of play dough, similar except for color.
2. Sorting two sets of objects, differing in shape, but similar with respect to color and amount of play dough in each.
3. Sorting balls of play dough, similar except for size and color.
4. Sorting shapes made from play dough into sets of those containing the *same amount, more than,* or *less than* a given reference shape.

Set D

1. Sorting containers into two sets, forming a set of containers which *hold more* and a set which *hold less*
a. when there were gross differences in containers
b. when containers differed in height only
c. when containers differed in 'bigness around'
d. when containers differed in both height and 'bigness around'
2. Sorting containers as to those holding *more than, less than,* or the *same amount* as a standard container.

Following the 7-month instructional period Parts A, B, C, and D of the Test of Prenumber Concepts were given again to the Experimental Group and the Control Group. In addition, Parts E, F, and G were also given at this time. These tested such concepts as 'more than', 'taller than', 'heavier than', 'fewer than', 'shorter than', 'lighter than', 'as many as', 'as long as', 'as heavy as', 'as short as' and the like.

Results

Analysis of the results of the testing showed the following with respect to Parts A, B, C, and D of the Test of Prenumber Concepts :

1. Significant gains were made by the Control Group over the 7-month interval ($F = 4.793$, $p < .05$).
2. Significant gains were made by the Experimental Group also ($F = 36.336$ $p < .01$).
3. The Experimental Group outperformed the Control Group. The mean for the Control was 15.7 ; for the Experimental Group, 22.3. The difference between the two groups was statistically significant ($F = 26.272$ $p < .01$).

With respect to Parts E, F, and G of the test, the Experimental Group again significantly outperformed the Control Group ($F = 14.478$ $p < .01$). The mean for the Experimental Group on the 18 items was 15.2 ; for the Control Group, 9.8.

At this time, an analysis was also made showing the percent of correct responses to each of the items of Parts A-D and of Parts E-G of the Test of Prenumber Concepts. These data are presented in Tables 2 and 3.

TABLE 2.

Item Analysis of the Test of Prenumber Concepts (Parts A-D) Showing Percent of Correct Responses in May

	Item	Concept	Percent of Correct Responses	
			Exp. Gr.	Control Gr.
P	1	many	100 %	92 %
A	2	long	100	100
R	3	tall	92	83
T	4	heavy	67	58
	5	holds more	100	92
A	6	more play dough	100	100
P	7	few	92	83
A	8	short (horizontal)	100	92
R	9	short (vertical)	100	83
T	10	light	67	8
	11	holds less	92	67
B	12	less play dough	100	100
P	13	most	100	33
A	14	longest	100	58
R	15	tallest	92	67
T	16	heaviest	100	50
	17	holds the most	92	67
C	18	most play dough	92	67
P	19	fewest	92	33
A	20	shortest (horizontal)	100	42
R	21	shortest (vertical)	83	50
T	22	lightest	92	33
	23	holds the smallest amount	92	58
D	24	smallest amount of play dough	92	50

TABLE 3.

Item Analysis of the Test of Prenumber Concepts (Parts E-G) Showing Percent of Correct Responses in May

	Item	Concept	Percent of Correct Responses	
			Control Gr.	Exp. Gr.
P	25	more than	83 %	75 %
A	26	longer than	75	58
R	27	taller than	75	50
T	28	heavier than	83	33
	29	holding more than	83	50
E	30	more play dough than	83	58
P	31	fewer than	58	67
A	32	shorter than (horizontal)	83	58
R	33	shorter than (vertical)	83	58
T	34	lighter than	75	17
	35	holding less than	92	75
F	36	less play dough than	75	92
P	37	as many as	83	33
A	38	as long as	100	67
R	39	as tall as	100	67
T	40	as heavy as	83	17
	41	holding as much as	100	50
G	42	as much play dough as	100	58

Tables 2 and 3 show that 75 percent or more of the Experimental Group experienced success on 39 of the 42 items on the test whereas the Control Group experienced such success on only 12 of the items.

It would appear that both the home and the school can do much in the way of developing prenumber concepts. Rather than succumbing to the urge to hurry the young child to counting activities, it is much more important for parents and teachers to provide for the development of those concepts which form the foundation for later work with numbers. Even though the development of these concepts can be fostered to a degree in the home environment, the results of this study suggest that an informal, but systematic, program carried out in a school setting can be significantly more successful.

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Summary

The purpose of the study was to determine whether an informal, sequential program of experiences in a school setting could be more effective than the home in fostering the development of prenumber concepts related to length, height, number, mass, and volume. Twenty-four three-year-olds were randomly assigned either to the Experimental Group which attended school, or to the Control Group which remained home for the year. Results of the testing revealed that: (1) significant gains were made by both the Control and Experimental Groups over a 7-month interval, and (2) the Experimental Group significantly outperformed the Control Group. Thus, the study suggests that a school program can be significantly more successful than the home in developing prenumber concepts.

Résumé

Développement du concept pré-numérique chez les enfants de trois ans.

Le but de cette étude était de déterminer si un programme, informel et à sequences, d'expériences dans un cadre scolaire pourrait être plus efficace que le foyer pour encourager le développement des concepts pré-numériques relatifs à la longueur, hauteur, nombre, masse et volume. Vingt-quatre enfants de 3 ans ont été au hasard assignés ou bien au *groupe expérimental* qui allait à l'école, ou bien au *groupe contrôle* qui restait à la maison cette année-là. Les résultats des tests révélaient que: (1) des gains significatifs ont été réalisés par aussi bien le groupe de contrôle que le groupe exprimental pendant un intervalle de 7 mois, (2) et que le groupe expérimental dépassait

en performance du groupe de contrôle de manière significative. Ainsi, l'étude suggère qu'un programme scolaire plus que le foyer peut donner un résultat supérieur de manière significative pour développer des concepts pré-numériques.

ANGELA PACE was born in Sprague ville, New York on August 31st, 1926. She received the B.S. degree from State University of New York at Albany The M.S. and Ph.D. degrees were received from Syracuse University, Syracuse, N.Y. She has been a member of the Education Department, State University of New York at Cortland since 1949 and holds the rank of professor. She has been awarded a number of scholarships and research fellowships : the Special International Scholarship from the Delta Kappa Gamma Society, 2 Grants-in-Aid and 2 Faculty Research Fellowships from the Research Foundation of State University of New York.

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- 'Understanding and the Ability to Solve Problems', *The Arithmetic Teacher*, (May, 1961), pp. 226-233.
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- 'The Effect of Instruction Upon the Development of the Concept of Number', *The Journal of Educational Research* (December, 1968), pp. 183-190.
- 'Conservation of Identity and Equivalence Among Children from Varying Socio-Economic Backgrounds', *Scientia Paedagogica Experimentalis*, Vol. X, no. 1, (1973), pp. 58-69.
- 'Development of Basic Mathematical Concepts Among Pre-Kindergartners from Low Socio-Economic Backgrounds', *Scientia Paedagogica Experimentalis*, Vol. XII, no. 1 (1975), pp. 63-72.

CHRONICA *

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* Readers are invited to send information on pedagogical research to the address mentioned below / Les lecteurs sont priés de bien vouloir communiquer leurs projets de recherches etc. à l'adresse suivante / Bitte senden Sie Information über experimentalpädagogische Forschungen an die folgende Anschrift :
Centre for Experimental and Educational Research
Henri Dunantlaan 1
B-9000 GENT (Belgium)

410. GREAT BRITAIN — GRANDE BRETAGNE

— Dr *Robert F. Dearden* has been appointed professor of education and head of the department of history and philosophy of education in the University of Birmingham from April 1, 1978. Dr Dearden has been a reader in the philosophy of education, University of London, since 1972.

— Mr *R. F. Goodings* is to be dean of the faculty of education at Durham University.

— Mr *R. A. Pring*, lecturer in curriculum studies at the University of London Institute of Education, received a chair in education at Exeter University.

— The Department of Education and Science is to run more than 100 short courses for teachers between April, 1978, and March, 1979. Directed by members of the inspectorate, they cover more than 30 subject areas and last from two to ten days. There is a special group of courses for Wales.

Their aim is outlined in a booklet published by the department. It says : 'Most of the courses in the programmes are designed to bring together for discussion of teaching techniques, fresh approaches to subjects taught in schools and new subject matter, groups of teachers with relevant experience who could be expected to develop their work further and take part – often a leading part – in local conferences and courses in their area.'

Subjects covered include adult education, assessment of performance, counselling and careers, youth and community service and curriculum and organization.

'Programmes of Short Courses April 1978-March 1979' is available free from HFEI, Elizabeth House, 39 York Road, London SE1 7PH.

— A modern languages degree course requiring only one foreign language A level for entry starts this year at Lanchester Polytechnic, Coventry. Students with French or German can take a BA combining their language with Spanish as the second main language.

The course lasts four years and students spend their third year in the two appropriate countries. It is aimed at those who want to use languages in their careers. The polytechnic believes that modern teaching methods make it possible for students to learn one language to degree level from scratch.

Dr *H. A. Hurren*, head of Lanchester's modern languages department, said : 'We have proved it is possible for students with two language A levels to study a third from scratch. We are confident and the Council for National Academic Awards agrees, that this is also true of students with one language coming completely fresh to a second.'

Second and fourth year options will include European history, politics and literature, and allow students a greater freedom of choice to pursue their personal interests.

The course is based on Lanchester's established B.A. honours degree course in modern languages which will continue to run. It is for students with two A levels. It is hoped eventually to offer Italian, Russian and perhaps German.
(*The Times Higher Education Supplement*, no. 317 (1977), p. 4).

— Leicester University is planning a joint course with Dutch universities in Amsterdam and Leiden.

The European Economic Community has given a grant of £1,700 for the development of a joint programme of study at the three universities. The course will examine urbanization in Western Europe from the sixteenth to the twentieth centuries, with special reference to Britain and the Netherlands.

Leicester's grant is one of 28 awarded to British universities and polytechnics for 1977-78 as part of a scheme for the development of joint programmes between institutions of higher education within the community.

The course, which will probably begin next year, is to be taught jointly at each university. Staff of the three institutions will take part in short exchange visits, and the grants will meet the expenses of joint planning meetings and the production of teaching material.

The course arose out of a series of lectures given in Holland by Professor *H. J. Dyos*, Leicester's professor of urban history. It aims to encourage the more systematic study of the emergence of modern urban society where it first occurred in its most complete form : Britain and The Netherlands.

It also aims to analyse the impact of the city on the community, and to identify the bearing of historical factors on contemporary city life.
(*The Times Higher Education Supplement*, no. 326 (1978), p. 4).

— Three times as much attention is given to language as to maths work in the middle school, according to a six-school survey carried out by the University of Aston.

Describing the survey to the education section, Mr *A. W. Foster*, from the university's department of educational inquiry, said that questionnaires sent to the six schools – all in Hereford and Worcester – revealed that teachers identified language work as an important part of eight subject areas. Number work was important in only two.

Combining this with the teachers' ratings of how much time was spent on various skills, the researchers come up with an estimate that language work accounted for 20 per cent of the curriculum, whereas number work was stressed in only 7 per cent.
(*The Times Educational Supplement*, no. 3249 (1977), p. 5).

— The 'British Journal of Educational Technology', sponsored by the Council for Educational Technology, devoted a special issue to the work of a ten years project worked out by the National Development Programme in Computer Assisted Learning. The programme's director and guest editor of the issue, *R. Hooper*, writes the following in his editorial introduction : 'In selecting and editing contributions to this issue, I have tried to give the

reader a general account of the National Programme and its projects. Because of the versatility of the computer as a tool in teaching and learning, and the breadth of education and training environments across which projects have operated, any generalizations made here should be treated with caution. It is also important to note that the National Programme was not set up as a research agency, but a development body, thus the papers contributed tend to be more descriptive than analytic. Hopefully, the evaluation papers included will balance any undue anecdotalism. We have tried to avoid computing jargon where possible so that the issue can be read by a more general audience.

The issue divides naturally into three parts. In Part One I have described the Programme and its activities and tried to indicate the major thinking that went into its design and operation. This account is followed by papers from *Barry MacDonald* and *John Fielden*, the directors, respectively, of the independent educational and financial evaluation of the National Programme.

Part Two contains a selection of four project case studies, written by the respective project directors. Work in schools and higher education, in computer assisted and computer managed learning, is covered.

In Part Three, we turn our attention to military and industrial training, where the National Programme has sponsored a small group of projects. The paper on military training, written by my assistant director, *Roger Miles*, reflects on UK and US experiences, and future developments. The paper on industrial training by *Stammers* and *Patrick* was commissioned as part of the National Programme's future study on computers in education and training in the 1980s.'

(*British Journal of Educational Technology*, Vol. 8, No. 3, October 1977).

415. IRELAND — IRLANDE

— Prof. *V. Alan McClelland* has been appointed to the chair of educational studies in the University of Hull. He has been professor of education in the National University of Ireland and head of the department of education at University College, Cork, since 1969.

— St. Patrick's College, Maynooth, Co. Kildare, a part of the National University of Ireland, has started a new one-year full-time training course for those working in adult education.

The course, which is open to holders of a degree or professional diploma with two years' experience in that field, includes study of the philosophy and structure of adult education, community development, psychology of adult learning and teaching methods, as well as a number of special optional subjects.

— A new higher technological college with over 7,000 students could be built in Dublin by 1981 if the Irish government accepts the recommendations of the governing body of the National Institute for Higher Education, Dublin (NIHED).

The idea of such an institution has been under discussion since the early 1960s and the country's Higher Education Authority made detailed recommendations on it in 1972. The governing body was finally appointed in 1974, and a director was installed last March.

So far, however, there is nothing to govern and no indication of when the first students will enrol. Meanwhile, the existing third-level colleges which cater for technological and business education in the capital are chronically overcrowded and lacking in facilities.

The 100-page NIHED plan, issued last month, is solidly technocratic. In its own words, it is 'a sound basis for the establishment of an institute to service the needs of our many school-leavers, to prepare them properly and relevantly for work and to provide Irish industry, commerce and the public service with cohorts of appropriately trained and motivated employees'.

The areas of teaching would be administration, business and professional studies, science, paramedical studies, communications, human studies, technology, design and education.

But 'no proconceived view of acceptable course types will be entertained by the institute. The needs of industry and the type of course which will meet such needs will be the sole criterion on which the institute will base its decision on course type'.

The plan argues that a different attitude to access is needed if the NIHED is to make an effective contribution to the equalization of educational opportunity for all students. Consequently, it suggests assessments based on a number of factors, including educational achievement, work experience, motivation and aptitude.

Assuming that 20 per cent of the age cohort enters higher education and that there is no emigration, the report estimates that national student numbers could reach 47,000 within four years, and 63,000 by 1986, compared with 33,000 at present.

Most of the growth will be in the higher technological sector, which should rise from around 7,000 to over 20,000 in 1981 and 34,000 five years later.

Separate calculations on the number of extra places needed in the Dublin area come up with a figure of 4,400 by 1981 (assuming 16 per cent participation rate) and 9,000 by 1986, when 20 per cent participation is achieved. To these the plan adds the number of places needed to allow most of the students to transfer from the existing Dublin colleges and concludes that the institution should have up to 7,800 places in 1981 and 10,000 by 1986.

In the short term, it is possible that students will enrol with NIHED but attend courses in the buildings of the colleges run by the City of Dublin Vocational Education Committee. In the longer term, these premises are likely to be devoted to lower level work such as trade apprenticeship.

It has hitherto been assumed that the new college would be located in Ballymun, in the northern part of Dublin, near a large socially deprived

local authority housing estate. But the report argues that the site is too small and too remote from the big population areas west of the city.

(*The Times Higher Education Supplement*, no. 324 (1978), p. 6).

430.1. GERMAN FED. REP. — REP. FÉD. ALLEMANDE

— The Rhenish-Westphalian University of Technology, Aachen, is equiped with a documentation centre for higher education legal matters.

The Centre was set up in order to exercise some sort of control over the flood of information in the area of higher education legal matters. This model experiment by the Ministry in *Land* Northrhine-Westphalia is, in the opinion of the head of the Centre, considered unique in the Federal Republic of Germany, if not in the whole world. This documentation centre assembles legal decisions in connection with higher education and evaluates them. Some 1,500 such legal decisions have already been stored on magnetic tape and can be called on by those interested. A further 5,000 court rulings are likely to be recorded at the *'Dokumentationsstelle'* in Aachen.

(*Bulletin de l'Association Internationale des Universités*, Vol. XXV, no. 2 (1977), p. 129).

— Beim Pädagogischen Verlag Schwann erschien 1976 „Unterricht als Sprachlernsituation. Eine empirische Untersuchung über die Zusammenhänge der Interaktionsstrukturen mit der Schülersprache im Unterricht" von *Peter Martin Roeder & Gundel Schümer*. Im Rande des Schutzumschlags weist man darauf hin dasz soziolinguistische Ergebnisse in die Unterrichtswissenschaft zu integrieren sind. Wenn restringierte Interaktionsstrukturen zu einem restringierten Sprachgebrauch führen und eine günstige kognitive Entwicklung behindern, musz der sogenannte kompensatorische Sprachunterricht darin bestehen, Interaktionsstrukturen bzw. Situationen zu schaffen die zum Problemlösen mit Hilfe der Sprache und zu kommunikativen Handeln anregen. Im empirischen Teil der Arbeit wird diese Leithypothese an 16 Schulstunden zu vier verschiedenen Themen überprüft. Die Interaktionsstrukturen werden mit Hilfe des von *Bellack u.a.* entwickelten Kategorienschemas analysiert, die gesprochene Sprache der Schüler wird auf die Komplexität der Satzstruktur hin untersucht, leider nicht auf die konversationnelle Struktur nach einem „Discourse analysis system". Die abschlieszende didaktische Interpretation bezieht die Ergebnisse auf Probleme der Planung und Organisation vom Unterricht.

— *Hans-Martin Müller-Wolf* veröffentlichte ein Buch unter dem titel „Lehrverhalten an der Hochschule: Dimensionen, Zusammenhänge, Trainingsmöglichkeiten" (Verlag Dokumentation, München, 1977).

Die Hauptfrage der Untersuchung ist die Bedeutung des Lehrverhaltens von Hochschullehrern für Einstellungen und Verhaltensweisen von Studenten. Dieser Frage wird durch die Untersuchung der Interaktionsprozesse in

Vorlesungen und Seminaren nachgegangen. Ausserdem wird in einer Rahmenuntersuchung versucht, den Stellenwert des Lehrverhaltens von Hochschullehrern für die „innere Reform" der Hochschulen zu bestimmen.

Im ersten Kapitel wird die Fragestellung (ihre Entwicklung und Bedeutung), der Forschungsplan und der Stand der Forschung dargestellt.

Das zweite Kapitel gibt einen Überblick über die Situation der Lehre an deutschen Hochschulen. Diese Rahmenuntersuchung weist den hohen Stellenwert des Lehrverhaltens von Hochschullehrern und der Hochschuldidaktik für die innere Reform der Hochschule, die Studienmotivation und die Zufriedenheit mit den Studienbedingungen nach.

Den Hauptteil bilden die Vorlesungs- und Seminarsuntersuchung: Im dritten Kapitel wird die Vorlesungsuntersuchung dargestellt. Das vierte Kapitel enthält die Seminarsuntersuchung. Beide Kapitel sind ähnlich angelegt: Neben einer exakten Beschreibung der gegenwärtigen Lehrsituation anhand von eigens dazu entwickelten Fragebogen und Beurteilungsskalen werden die wesentlichen Faktoren (Dimensionen) des Lehrverhaltens, der studentischen Verhaltensweisen und des gruppendynamischen Geschehens dargestellt. Durch die Beschreibung der Zusammenhänge zwischen dem Lehrverhalten einerseits und den studentischen Einstellungen und Verhaltensweisen andererseits wird die Notwendigkeit von Veränderungen und der Weg dahin aufgezeigt.

Die Ergebnisse der Vorlesungs- und Seminarsuntersuchung ergänzen und unterstützen einander. Sie basieren auf Untersuchungen in den Vorlesungen von 60 Hochschullehrern (aus 10 Fachbereichen von 10 Universitäten der BRD) mit 2146 Studentenbeurteilungen; weiterhin wurden 87 Hochschullehrer (aus 8 Fachbereichen an 9 Universitäten der BRD sowie an fünf Universitäten des Auslands) in die Seminaruntersuchung einbezogen und von 2124 Studenten in ihrem Lehrverhalten eingeschätzt.

437. CZECHOSLOVAKIA — TCHECOSLOVAQUIE

— The May-June 1977 issue of Higher Education in Europe, European Centre for Higher Education (CEPES) of Unesco in Bucharest, contains information on the European Information Centre for the Further Education of Teachers, established at Charles University, Prague.

The Centre, established in 1973, is the outcome of numerous discussions by experts in a number of European countries over the past decade, as well as within Unesco.

The activities of the Centre are focused on further education for teachers at the primary and secondary levels, as well as that part of higher education which is concerned with the preparation of teachers.

The international character of the Centre is mainly reflected in its Charter which states that its international function is to be carried out along the lines laid down by the Unesco General Conferences and in close co-operation with relevant institutions in socialist and non-socialist countries of Europe and with the Unesco Secretariat.

In Autumn 1977, the Centre held two meetings of experts in the field of further education : one on the problems of the further education of teachers in the use of learning media, and the other on the further education of teachers of handicapped youth. It is also planned to publish periodicals and monographs dealing with the further education of teachers.

(*International Association of Universities*, Vol. XXV, no. 3 (1977), p. 198).

44. FRANCE

— L'évolution de la théorie et de la pratique de la planification de l'éducation a fait l'objet d'un séminaire restreint international organisé par l'IIPE, qui s'est tenu du 19 au 25 juin 1977 à Arc-et-Senans, en France. Ce séminaire auquel ont assisté plus de 20 participants en provenance des principales régions du monde était présidé par M. *Hans N. Weiler*, Directeur de l'IIPE, assisté de plusieurs membres du personnel de l'Institut.

L'objectif essentiel de ce séminaire était d'examiner l'évolution de la planification de l'éducation au cours des dernières années et les orientations possibles de la planification du développement et de la réforme des systèmes éducatifs dans l'avenir.

Le séminaire a admis que l'on en est venu à remettre en question une bonne partie des hypothèses sur lesquelles se fonde la planification de l'éducation alors que la modification des objectifs entraîne l'apparition de tâches et de priorités nouvelles pour les planificateurs.

Les participants ont souligné qu'il est absolument nécessaire de revoir entièrement les rapport entre la planification et la réforme, la planification et l'administration et enfin la planification et l'évaluation. Le souci grandissant que l'on manifeste en ce qui concerne les aspects de répartition et de qualité dans le développement de l'éducation introduit dans la planification des perspectives nouvelles.

Lors de l'ouverture de ce séminaire, M. *Weiler* a indiqué qu'au cours des trois dernières années l'IIPE avait étudié sérieusement cette évolution et réfléchi à ses conséquences pour la planification de l'éducation. Les programmes de recherche et de formation de l'Institut commencent à tenir compte des priorités nouvelles que l'on estime importantes pour la planification du développement et de la réforme de l'éducation.

Les débats en séance plénière ont essentiellement porté sur les trois thèmes suivants : les défis que rencontre la planification ; perspectives nouvelles de la planification de l'éducation et nouveaux points à l'ordre du jour de la planification de l'éducation. Les groupes de travail ont abordé en détail les questions des priorités de recherche dans le domaine de la planification de l'éducation, de la formation du personnel intéressé et de l'organisation administrative de la planification de l'éducation.

Un rapport complet des travaux de cette réunion est actuellement en cours

de préparation en sera bientôt publié ; il contiendra les principaux documents présentés au cours du séminaire.

(*Bulletin de l'Institut International de l'Education*, no. 3 (1977), p. 8).

— Le quatrième congrès international des universités du troisième âge s'est tenu en juin 1977 à Toulouse, en présence de M. *René Pallard*, Président de l'Université des sciences sociales de Toulouse, de M. *Pierre Vellas*, Président de l'Association internationale des universités du troisième âge, de M. *H. Mahler*, Directeur général de l'Organisation mondiale de la Santé, et de M. *Lenoir*, Secrétaire d'Etat (France) à l'action sociale.

Né à Toulouse il y a quatre ans, le mouvement a suscité des vocations dans d'autres villes de France (Caen, Lille), d'Europe (Genève) et d'Amérique. Le gouvernement des Etats-Unis doit étudier un texte de loi tendant à officialiser ces universités. Pour sa part, la Pologne a déjà des chaires du troisième âge dans chacune de ses facultés. M. *Pierre Vellas* a abordé le problème de ces universités, leur financement, défini leurs programmes de recherche et insisté sur la nécessité d'intensifier les activités socio-culturelles des personnes ayant dépassé l'âge de la retraite. Certains participants ayant souligné que l'éducation permanente était fonction du niveau de santé, les responsables de Midi-Pyrénées ont expliqué ce qui avait été réalisé à ce titre à l'université de neige de Luchon (Haute-Garonne) et aux unités d'enseignement et de recherche de Toulouse et de Montauban. Ces établissements, rattachés à l'Université des sciences sociales, ont notamment pour but de contribuer à l'élévation du niveau de santé des personnes âgées. Les activités médico-sportives sont précédées et suivies d'examens de santé, d'une diététique appropriée, de séances de yoga, de promenades-oxygénation.

Le Docteur *H. Mahler*, qui a reçu le diplôme de docteur *honoris causa* de l'Université de sciences sociales, a déclaré « qu'il était scandaleux de rejeter de notre société de consommation les personnes âgées déjà victimes de l'isolement et de la non-participation, qu'une grande série de possibilités n'avait pas été cultivée par manque d'imagination sociale et que c'était le mérite de l'Université des sciences sociales de Toulouse d'avoir conçu une stratégie et de l'avoir décentralisée ».

(*Association Internationale des Universités*, Vol. XXV, no. 4 (1977), p. 274).

— Des dirigeants d'universités et des chercheurs de France, de Belgique, d'Italie, du Portugal et d'Espagne ont participé à une réunion consultative sur l'Université des Nations Unies (UNU) qui s'est tenue au Siège de l'Unesco les 9 et 10 mars, 1977. Cette rencontre avait notamment pour objet d'identifier les questions qui mériteraient d'être approfondies dans des domaines intéressant la survie de l'homme – la faim dans le monde, la gestion et l'utilisation des ressources mondiales, le développement humain et social – et que l'UNU pourrait contribuer à élucider grâce à une collaboration avec des réseaux de chercheurs à l'échelle internationale. Après avoir formulé des suggestions sur des thèmes comme la croissance humaine et la nutrition,

l'énergie solaire, les indicateurs de développement, le colloque est convenu que la promotion des droits de l'homme constitue le véritable but des activités de développement ; un très large intérêt s'est manifesté en faveur de recherches visant à permettre aux populations d'exprimer leurs propres aspirations en ce domaine.

En souhaitant la bienvenue aux participants, le Directeur général a souligné que l'Université des Nations Unies, qui doit « repenser les grands défis de notre temps », représente une initiative sans précédent. M. *M'Bow* a insisté sur le fait que des ressources financières sont nécessaires à l'UNU pour commencer ses travaux et répondre aux espoirs qu'elle a suscités. On a envisagé pour le fonds de dotation de l'Université, a-t-il précisé, une somme globale de 500 millions de dollars sur laquelle le gouvernement japonais s'est engagé pour sa part à verser 100 millions.

Le secrétaire d'État français aux universités, Mme *Alice Saunier-Seité*, M. *James M. Hester*, recteur de l'UNU et ancien président de l'Université de New York, et le vice-recteur chargé de la planification et du développement, M. *Alexander A. Kwapong*, ancien vice-chancelier de l'Université du Ghana, ont notamment pris la parole. Précisons que la réunion était présidée par M. *Paul Marc-Henry*, président du centre de développement de l'Organisation pour la coopération et le développement économiques.

(*Chronique de l'Unesco*, Vol. XXIII, no. 3-4 (1977), p. 80).

— Réunie à l'invitation de l'AUPELF (Association des Universités Partiellement ou Entièrement de Langue Française) la Deuxième Rencontre mondiale des départements et centres universitaires d'études françaises s'est tenue à l'Université des sciences humaines de Strasbourg du 17 au 23 juillet 1977.

Elle a rassemblé près de huit cents universitaires représentant les départements ou centres d'études françaises aussi bien d'universités non francophones que d'universités partiellement ou entièrement de langue française, dans une centaine de pays.

Poursuivant la réflexion collective amorcée à l'Université Laval lors de la Première Rencontre mondiale de mai 1972, les participants se sont interrogés sur le renouveau des études françaises à l'université, en orientant leurs travaux dans les directions proposées par les thèmes principaux de la Rencontre : l'enseignement du français comme instrument d'accès à l'information scientifique et technique, et la finalité et le contenu des programmes spécialisés d'études françaises.

Cette Rencontre a permis de débattre en commun des différents problèmes et de mettre en lumière les aspects multiples de l'enseignement du français dans le monde.

Parmi les constatations majeures que cette rencontre a permises, il faut notamment mentionner la prise de conscience du caractère véritablement international de la langue française et, partant, du contenu des études françaises ; la recrudescence de l'intérêt pour les littératures et les civilisations de tous les pays partiellement ou entièrement de langue française et, par voie de conséquence, la redécouverte du français comme instrument du dialogue

des cultures ; la nécessité accrue d'une documentation beaucoup plus abondante et précise sur les ouvrages spécialisés, les matériels pédagogiques et sur les possibilités ouvertes par les moyens audio-visuels.

Dans le cadre de cette Rencontre s'est tenue une exposition de deux mille ouvrages didactiques et de périodiques et revues spécialisés, représentant les productions récentes les plus importantes en matière d'études françaises. L'AUPELF a, à cette occasion, présenté deux nouveaux ouvrages : le « Guide culturel des pays d'expression française » et le « Répertoire international des départements d'études françaises ».

Le « Guide », co-édité par Hachette et les Presses de l'Université Laval, a été préparé sous les auspices de l'AUPELF par les professeurs *André Reboullet* et *Michel Tétu*, avec le concours d'une dizaine de collaborateurs. Pour chacun des pays ou groupes de pays concernés, on y trouve une introduction à la civilisation et à la littérature et une bibliographie sélective largement axée sur la production contemporaine.

Le « Répertoire », dont c'est la première édition, comporte les noms et adresses de 1350 centres et départements universitaires d'études françaises dans le monde.

(*Association Internationale des Universités*, Vol. XXV, no. 4 (1977), pp. 290-291).

— « Aspects de l'administration de l'éducation » : c'est à ce thème qu'est consacré le dossier du numéro 3 de la revue *Perspectives* (Vol. VII, 1977). Les huit contributions constituant cette rubrique portent notamment sur : la prise et l'application des décisions ainsi que les communications ; la formation des administrateurs – le cas précis de l'Amérique centrale étant plus particulièrement exposé ; la décentralisation ; le cadre conceptuel d'une réforme ; l'informatique et la gestion scolaire dans les pays en développement ; la situation dans les pays arabes ainsi qu'en Asie ; quelques orientations pour l'avenir.

Cette livraison s'ouvre sur deux articles consacrés, l'un aux conséquences dramatiques de la malnutrition sur le développement du cerveau et l'acquisition des connaissances, l'autre (dû à M. *S. Tanguiane*, sous-directeur général pour l'éducation) à la démocratisation de l'éducation.

Dans la rubrique « Positions/Controverses » sont évoqués les deux défis que constituent, pour l'enseignement supérieur les limites de la croissance, et pour l'éducation permanente l'alternative : catastrophe ou société nouvelle.

On trouve encore, dans les « Tendances et cas », les perspectives du développement de l'éducation en URSS, ainsi que le projet zambien de création d'un système national d'éducation conforme à la politique du pays.

(*Chronique de l'Unesco*, Vol. XXIII, no. 3-4 (1977), p. 82).

— De la part du Professeur *G. Mialaret*, directeur du Laboratoire de Psychopédagogie de l'Université de Caen, nous avons reçu un rapport d'activité du laboratoire. Nous en citons les dissertations doctorales en cours qui ne sont pas encore annoncées dans le volume précédent de SPE.

– *Y. Audigon,* « Dyslexie et perception visuelle. Utilisation d'une technique basée sur un procédé tachistoscopique pour des enfants de cours élémentaire première année ayant des difficultés dans l'apprentissage de la lecture » (directeur : Prof. *G. Mialaret*) ;
– *R. Champagne,* « Étude comparative de la perception des étudiants-maîtres par leurs professeurs d'école normale avec celle des professeurs par les étudiants-maîtres » (directeur : Prof. *G. Mialaret*) ;
– *Cl. Delmas* et *P. Serazin,* « Aspirations-créativité et situations éducatives » (directeur : Prof. *G. Mialaret*) ;
– *M. Fatma,* « Étude différentielle du comportement verbal du professeur de disciplines scientifiques et de celui de disciplines littéraires » (directeur : Prof. *G. Mialaret*) ;
– *A. Ferry* et *J. Germain,* « Attitude des instituteurs vis à vis de la formation continue. Besoins ressentis au niveau du recyclage ; vœux et souhaits vis à vis de l'organisation des stages ; motivations réelles » (directeur : Prof. *G. Mialaret*) ;
– *A. Malineau-Piho[illegible],* « La pédagogie de l'enseignement programmé appliqué à des groupes restreints. Analyse d'une expérience en sciences humaines » (directeur : Prof. *G. [illegible]ialaret*) ;
– *A. S. Massoud,* « Analyse de certains aspects pédagogiques de la formation des éducateurs de centres de vacances » (directeur : Prof. *J. Vial*) ;
– *L. Tsoungui Olama,* « La formation des enseignants au Cameroun. Analyse des motivations à la carrière enseignante et suggestions méthodologiques » (directeur : Prof. *J. Vial*) ;
– *A. Wery,* « Un enseignement programmé de l'utilisation du dictionnaire » (directeur : Prof. *J. Vial*) ;

Les thèses suivantes ont été soutenues :

– *J. Chossière,* « Contribution à l'étude de l'appréciation de textes écrits par des élèves de sixième dans le cadre de l'enseignement du français » ;
– *F. Lefèvre,* « Conduite d'enfants en présence de l'OLALGRAPH : Apprentissage, rééducation » ;
– *M. Moscato,* « Performance linguistique et activités cognitives : Étude sur le raisonnement déductif ».

45. ITALY — ITALIE

— Italy's elementary and middle schools (11 to 13) will undergo a number of apparently small, but significant changes over the next year. The school year, for example, began on September 20 instead of on October 1 as in the past. Next year the Government hopes to start the school year on September 10, and eventually to bring the starting date to September 1.

Attempts to reduce the long summer break to three months has met with enormous opposition from Italy's powerful tourist industry which is worried that it will suffer due to lost Italian family bookings in September.

The traditional September supplementary examinations will also be abolished in the elementary and middle schools. These were held to give a second chance to pupils who failed, or partly failed, in the previous school year.

The supplementary examinations have long been regarded as educationally useless and unjust. Since the Government never supplied free tuition over the summer months, parents of failed children had to pay inflated fees to teachers willing to give tuition during the summer holidays.

This inevitably meant that children of low-income parents were at a serious disadvantage during the supplementary examinations. These will now be replaced by extra courses both during the school year and in early September.

As from this year, numerical marks will no longer be used in the elementary and middle schools to assess pupil progress. Teachers will be expected to maintain a continually updated report on each pupil's progress.

This year, too, sees the abolition of Latin as a compulsory subject in the middle schools. The decision to cut Latin from the middle school syllabus caused a national controversy last year.

In place of Latin, music will now be given much more importance. It will now become a compulsory subject for one hour a week for all three years of middle school. In the past, music was compulsory for only one year.

Hand crafts and art will also be upgraded with extra hours, and schools will be expected to plan extra special courses. These may include such subjects as theatre, dancing and choral singing.

(*The Times Educational Supplement*, no. 3253 (1977), p. 11).

480. FINLAND — FINLANDE

— Following recommendations by the Finnish Cultural Foundation, the Government plans to create regional 'open universities', each based at one of the eight existing multi-faculty full universities.

A committee including university, adult education and Finnish Broadcasting Company representatives, has prepared a report which recommends developing existing facilities rather than creating a new institution like the Open University, Milton Keynes, United Kingdom, which is considered as too expensive a scheme.

The eight new open university departments would form the nucleus of regional units covering the country, including other single-faculty universities, 86 folk high schools – which offer residential adult tuition –, 265 adult education institutes providing mainly evening courses and 21 university level summer courses. A national commission would act as coordinator for the eight units and maintain links with overseas open universities.

Courses and teaching would be supervised by the eight departments and their branches at adult institutes and folk high schools. The universities would also adopt curricula, choose tuition methods and materials and approve non-university tutors.

Tuition would be initially mainly direct, relying almost exclusively on university teachers, who would take on the extra instruction load as overtime. Later, however, private study through correspondence courses, national radio and television and regional radio would dominate.

Students would study mainly at home, attending intensive or evening courses offered by their nearest university or college. They would also be expected to undertake laboratory or other research work at the summer universities, which currently offer tuition toa bout 40,000 over 16s, regardless of their educational background.

Courses would be based on a credit point system and students should be able to study for a new intermediate qualification as well as traditional full-length degrees.

(*Bulletin de l'Association Internationale des Universités,* Vol. XXV, no. 2 (1977), p. 128).

— Under the direction of Em. Prof. Dr. *Matti Koskenniemi,* Institute of Education, University of Helsinki, the following doctoral dissertations are in progress :

– *K. Uusikylä,* 'Joint planning as a part of the instructional process' ;
– *M. Martikainen,* 'Participation of pupils in the verbal interaction during the instructional process' ;
– *K. Karma,* 'Estimating the basic structure of instructional situation with the DPA classification system'.

485. SWEDEN — SUÈDE

— We received a copy of *Wilhelm Sjöstrand*'s book on 'Freedom and Equality as fundamental Educational Principles in Western Democracy from John Locke to Edmund Burke', published by Almqvist and Wiksell.

Freedom and equality are essential concepts of the social debate of today all over the world. But content and scope vary from case to case. Also within Western democracy there is no longer a conventional idea of what these two concepts signify. Under these circumstances it might help to throw light upon conditions, if one examines what has been implied in the principles in the past. Such a study could be called semantic, but could be characterized as a kind of analysis of contents concentrated on history. But the main stress of the scientific project, of which this book is a part, is not on the political development itself, but on an investigation of the significance of freedom and equality as fundamental ideas in the context. Besides the investigation is confined to the import of the concepts in an educational respect. This is of course a very important although not exhaustive point of attack of the problem of freedom and equality. For no one can deny that the decisive significance for the conception of the two principles is due to the ideas of man's original, natural constitution on the one hand, and the belief in the possibility of forming the individual in various respect on the other. That

which might be expected from the purposeful influence which nowadays is called the educational process, and earlier was called upbringing, instruction and vocational training of course has far-reaching consequences for that which might be implied in the concepts of freedom and equality.

This book is published as no. 12 in the series 'Studia Scientia Paedagogicae Upsaliensia'.

— Prof. *P. S. Freyberg,* Head of the Department of Education, University of Wiakato, Hamilton, is the director of the following doctoral dissertations in progress :

– *M. J. Collett,* 'The effects of pre-reading periods of various lengths in a beginners 'French course' ;
– *N. J. Haigh,* 'Teacher intentions and decision making' ;
– *N. N. Hanlon,* 'Patterns of verbal interaction : the effects of situational variables on the language performance of eight year old children' ;
– *R. W. Katterns,* 'The relative effectiveness of different forms of micro-teaching incorporating a sensitisation approach' ;
– *C. F. McGee,* 'Inservice programme effects upon teachers' classroom questionning behaviour and pupil attainment in social studies' ;
– *R. J. Osborne,* 'A systems approach to physics education at first year university level' ;
– *P. D. K. Ramsay,* 'Vocational commitment in nurse and teacher trainees'.

489. DENMARK — DANEMARK

— A comprehensive plan setting out educational needs into the 1990s is to be published within the next few months. Apart from forecasting the outcome of current trends, it will make concrete proposals for decisions over the next 15 to 20 years.

Known as the U90 plan – *udannelse* is the Danish word for education – it is being prepared by the Central Council for Education, a body responsible for long-term planning within the Ministry of Education. The project was initiated by the minister, Mrs *Ritt Bjerregaard,* in May 1975.

An interim report outlining the scope and priorities of the plan has already been published, and the Danes have invited a three-man team appointed by the Organization for Economic Co-operation and Development (OECD) to comment on the final report next year. The team includes *Lord Briggs,* Provost of Worcester College, Oxford.

The plan will embrace all aspects of formal – and informal – organized education. It will emphasize the interdependence of education with other forms of social planning and as what can and should be done to equip the next generation of pupils to meet the changing demands of leisure and family, working and community life.

One goal will be to give higher priority to cutting inequality. Though education is open to all, opportunities are not equal ; only tuition is free with

other 'costs' having to be met by the individual. The report will consider increasing state support for those studying.

It will also look at access to further and higher education, the future of the school marking system, education as a career investment, the effect of home background on achievement, the degree of specialization within courses and the gearing of admissions to different types of education according to future manpower needs.

One area certain to come in for considerable scrutiny is upper secondary schooling, which currently splits comprehensive schoolleavers into academic pre-university gymnasia and vocational training schools, each with different methods and recruitment.

Another major goal will be to lay down new guidelines on the training of critical ability in schools. The interim report says : 'U90 will emphasise the function of men and women as social beings rather than as purely free and independent individuals.'

Special attention will be given to the role of schools in imparting favoured values on sex roles and generation differences within the family, awareness of the Third World and 'the class struggle' and the virtues of shared decision making in working life.

U90 will contain proposals on working skills that could be taught to all pupils such as precision and the ability to adapt and cooperate.

The report is likely to make it clear that some traditional aspects of school study will have to give way to new ones. The interim report says : 'In the new curricula a proper balance must be found between knowledge, skills and attitudes and between theoretical, practical and creative elements.'

Retraining and 'reorientation' of teachers will be of great importance, not only as regards professional know-how but attitudes. The achievements of equality poses the question of how free teachers should be to choose their own teaching methods.

Change is also likely in the overall structure of the educational system with abolition of parallel higher and further tuition and academic and vocational upper secondary schooling. Similarly, the size of schools and the age-limits for different types of learning will be examined ; admistrative control may need to be more centralized.

The final report will include proposals for a new planning structure for education, enabling the step by step implementation of the U90 plans.

(*The Times Educational Supplement,* no. 3258 (1977), p. 12).

492. NETHERLANDS — PAYS-BAS

— The two-year trial period of Holland's first Open School has officially been started. Fifteen hundred adults will participate in three projects spread over 14 locations. Courses will be aimed at workers, housewives over 30 and young workers between 17 and 30, with relatively little schooling behind them.

The Open School will cost the Government 10m guilders a year (£ 2.25 m). Participants, for the first two years at least, will pay nothing. Eventually the Government hopes to introduce a paid educational leave scheme for workers similar to the Scandinavian system. One major Dutch company has already taken the initiative and given 25 o[illegible] its employees two hours' paid leave a week to study with the Open School.

The school will use a multi-media system to reach its students. This includes 20 hours' each of radio and television broadcasts a year, written material, individual tuition and discussion groups held in neighbourhood centres. These 14 centres have been specifically chosen in areas of high unemployment and in outlying districts where more conventional opportunities for part-time adult education are limited.

About 13 percent of adults now follow some form of part-time education by way of radio and television courses, written courses, evening classes and the secondary school diploma day courses for adults. But it is the already better educated who are most using the facilities.

With the Open School the content of the courses will be assembled to suit the levels and requirements of each participant and students will study at their own tempo.

The course will also be geared wherever possible to the work experience of adults. Initially each neighbourhood centre will work through eight topics including housing, work, health and communication.

Each topic will last six weeks and numerous options and 'levels' within it. The topics will provide much practical information for students, such as knowing their civil rights, and how to write letters to relevant authorities.

Students may also study for more examination-orientated courses in Dutch, English, French, German, physics, mathematics, biology, history, geography and needlework. Each subject will be taught at four grades and students choose their own level for each subject.

When the students have worked through the topic, they are given a report indicating possibilities for further study. At that stage it is assumed that they will have reached an educational level equivalent to a second-year general secondary school.

At present there are no facilities to take secondary or grammar school diplomas through the Open School. Students wanting to continue studying would have to transfer to the more conventional evening classes.

If the trial period is successful, it is hoped to expand the Open School's activities to provide courses for students with a wider educational background. An Open University may follow in the late 1980s.

(*The Times Educational Supplement*, no. 3249 (1977), p. 10).

— We have received the following comments on the third international symposium on educational testing (Leyden 27-30 june 1977), from a Belgian participant, Mrs. *G. Schuyten* (*Plancke*), Dr. Math, associate professor at the Seminar and Laboratory for Experimental, Psychological and Social Education

of Gent State University, Belgium (Directors : Prof. Dr. *R. Verbist* and Prof. Dr. *M.-L. van Herreweghe*).

The third international symposium on educational testing was held at Leyden, the Netherlands, june 27-30, 1977. The purpose of this symposium was to bridge the gap which too frequently seems to exist between the frontiers of educational and psychological theory and everyday practice in educational testing and research. The academic program consisted of symposia and submitted individual papers. In each of the four morning sessions, a plenary symposium was held, devoted to one of the four topics, namely the IQ-controversy, test bias, tailored testing and open-ended examinations. The submitted individual papers were presented during the afternoon sessions. The first and second day was devoted to test bias, the third to tailored testing and the fourth to open-ended examinations.

The plenary morning session devoted to 'Heredity of intelligence and education' revealed that the techniques and outcomes of heredity studies are still open to doubt. *C. Bereiter* (O.I.S.E.) in his paper : 'The relevance of genetic ideas to instruction', described the modal position of educators in the Western world as follows : 'They are quite prepared to accept genetic explanations of

(1) characteristic reputed to be universal in the species, such as language capacity and the Piagetian stages of cognitive development ;

(2) obvious biological anomalies, such as Down's syndrome ;

(3) individual differences that fall into the "variety is the spice of life category" such as differences in temperament and cognitive style.

What educators will not accept is genetically determined inequality that is, any theory of differences which implies that people differ at birth in their human potential. Nature can make mistakes, but nature would not contrive systematically to award some people better chances for success in life than others."

Bereiter criticized those educators who stress the biological side of children's development as a to passive approach and those who stress learning as a to aggressive approach. It does not appear to *Bereiter* that genetics itself could offer something very substantial to instructional theory.

H. Eysenck (University of London) dealt with the importance of genetic factors in his paper : 'Intelligence, education and the genetic model'. He defended a genetic model building which is not primarily concerned with heritability as such, but rather with the establishment of the mode of inheritance of intelligence. According to him, apparent equality of opportunity, given to biologically unequal organisms, does not necessary give the best chances for each organism to make optimum use of his or her abilities.

Jaspars and *de Leeuw* (University of Leyden) presented in their paper : 'The curious environment of the behavior geneticist' a series of models and reanalyses of existing data in which they showed how the introduction of influences, such as the direct effect of parental phenotype on children's

phenotypes and the effect of the genotype on the social environment, can change our current estimates of heritability of cognitive abilities.

The plenary morning session devoted to 'Fairness of selection in educational testing' revealed that educational and employment selection strategies are strongly debated with respect to minority groups in the U.S.A.

Van der Flier and *Drenth* (Free University of Amsterdam) and *N. Petersen* (Educational Testing Service) dealt with mainly statistical and methodological aspects concerning 'bias in the selection rule', 'bias in the test'. As to 'bias in the selection rule' the application of utilities is stressed ; as to 'bias in the test', according to *N. Petersen* the item characteristic curve approach is the only known sound theoretical approach to the problem of item bias, even with its limitations.

M. Novick (University of I.O.W.A.) argued that emphasis should be placed on eliminating the diseases of discrimination and unequal opportunity rather than the fallible sympton of disproportionate representation. He mentionned the fact that the new U.S. federal guidelines on employment selection adopted by the Departments of Labor and Justice, and the Civil Service Commission reflect the now-accepted notion that the greatest gain in making jobs more widely available is attained through specific training programs and through job redefinition, which makes unnecessary the demonstration of skills that are not central to the job requirement. With respect to education he sees the measurement of individual disadvantage as a major task.

The plenary morning session devoted to 'Theory and Practice of Tailored Testing' revealed the importance of individualized testing where the test is tailored for each individual tested taking into account his level of ability, as judged from his responses to previous questions.

F. M. Lord (Educational Testing Service) dealt with sophisticated statistical problems in his paper 'Some how and which for practical tailored testing'. He gave an excellent review of what will be involved, what decisions will be made and what kind of results can be expected. *G. H. Fischer* (University of Wien) tackled two main limitations from which the practical application of 'tailored testing' suffers, i.e. availability of a large pool of homogeneous items and access to an appropriate electronic device. In his remarkable paper 'Tailored testing on the basis of the Rasch-model' he first demonstrated how test items can be generated on the basis of a structural model of item difficulty, i.e. a linear logistic test model, LLTM. Then a technically simple method of 'multi-stage testing' is suggested, which allows to test individually without the use of computer terminals, making systematic use of the special properties of the dichotomous logistic model of *G. Rasch*. *R. Wood* (University of London) broadened the notion of tailored testing to testing situations where individuals choose for themselves the question or tests they wish to attempt. In his paper 'Self-tailored testing' he suggested that individuals do their own tailoring according to personal criteria which will normally take into account

self-estimates of ability but which will also be influenced by factors such as preparation, timing and more generally, taste.

The plenary morning session devoted to 'Open-ended examinations : Problems and techniques of analysis' revealed that the essay type examination is and will be an important procedure in educational testing notwithstanding the well known weaknesses of many essay examinations. The three papers dealt in a very technical way with the problem of reliability estimation of essay examinations.

In the paper of *D. de Gruijter* (University of Leyden) : 'The essay examination' and in the paper of *L. van der Kamp* and *D. de Gruijter* (University of Leyden) : 'Methods of reliability estimation of essay examinations' the analysis of variance approach and the analysis of covariance approach were discussed. Comparisons were made between generalizability theory (ANOVA-approach) and the analysis of *Jöreskog* (ACOVS : the analysis of covariance structures). *K. Wall* (University of Dortmund) discussed some methods of ordinal reliability in his paper 'Elements of a non parametric analysis of reliability in essay examination.' The two approaches ordinal and ANOVA were compared.

During the afternoon sessions of the third and fourth day the papers presented were of a mainly technical statistical character. Being myself a mathematician I was very interested in the psychometric aspects, but many people attending the sessions said the papers were too technical and that more general problems should be discussed. It seems to me worth to mention that there was only one paper devoted to 'Mastery learning'.

G. SCHUYTEN (PLANCKE)

— We received a copy of 'Kinderen buiten spel. Op zoek naar een vriendelijke woonomgeving voor kinderen' (Looking for a friendly living environment for children) by *H. Blecker* and *K. Mulderij* (Boom Meppel, Amsterdam, 1978). The book is the report of a research on the value of living environment for primary school children. It also gives an overview of child play in the past and tries to suggest stimulating changes in the child's environment.

493. BELGIUM — BELGIQUE

— A book of readings entitled 'Pedagogische Psycholinguïstiek', edited by Dr *M. Spoelders*, was published by the Seminar and Laboratory for Experimental, Psychological and Social Education of Gent State University.

It contains the papers originally presented on the occasion of a colloquy held at Gent University in November 1976, which dealt with the educational implications of psycholinguistic topics such as native and non-native language acquisition, baby talk, algorithms, semantic memory, theory of markedness (for a complete list of the contents see *Scientia Paedagogica Experimentalis* XIV, 1 (1977), pp. 153-154). The papers are written in English, French

or Dutch. This book is available from the publisher (Henri Dunantlaan 1, B 9000 Gent, Belgium). It costs B.F. 285,– (v + 284 pages).

51. CHINA — CHINE

— A recent Chinese report on science and education contains important new information on the measures now being taken to raise standards. According to the 'New China News Agency' the report was delivered on December 27, 1977, by *Fang Yi*, vice-president of the Academy of Sciences and a member of the Politburo of the Chinese Communist Party.

Mr *Fang*, who has worked mainly as an economic administrator, admitted the gravity of the present situation. He said that Chinese science was not only relatively backward but that the gap between China and the advanced countries had actually widened in recent years.

He also claimed that 'the quality of education has declined sharply', and 'the development of a whole generation of young people' had been retarded. Science and education were now lagging so far behind that they were 'seriously hindering' the modernization programme in agriculture, industry and national defence.

In his review of work over the past year Mr *Fang* revealed that the State Commission for Science and Technology has been reestablished. This body disappeared in the Cultural Revolution but is now again responsible for 'the overall planning, coordination, organization and administration of the country's scientific and technological work'.

At present it is drafting a programme for scientific development which will be submitted to a national conference on science in the spring. He also revealed that the Academy of Sciences and the Ministry of Education have jointly organized some 1,300 experts to draw up plans for developing basic branches of science. New research institutes have also been set up.

Mr *Fang* also reported that 'workers' propaganda teams' were being withdrawn from the universities. These were sent in in 1968 to restore order and to ensure that academics followed the correct 'revolutionary' line. Now, it is stated, they have 'successfully accomplished their historic mission'.

(*The Times Higher Education Supplement*, no. 324 (1978), p. 6).

519. KOREA

— In co-operation with the Seoul National University, the Korean National Commission for Unesco held a Regional Meeting on Innovations in Education and Training of Engineers and Higher Technicians of Southeast Asia in Seoul.

Some 60 higher technicians, scholars and Government officials from ten different countries (Australia, Hong Kong, Indonesia, Japan, Republic of Korea, Malaysia, New Zealand, Philippines, Singapore and Thailand) participated in a discussion on 'New Curricula and Forms of Education in Training, with special reference to Education-Industry Co-operation'.

The following recommendations were adopted at the close of the meeting:
1) Follow-up meetings concerned with engineering and technical education and training should be held at regional and national levels. Consideration should be given to meetings on more specialized topics such as, for example, manpower planning, curriculum development and teaching methods.
2) Regional workshops should be held for technician educators on curriculum design and development, including evaluation of courses, possibly in collaboration with the Colombo Plan Staff College and Unesco.
3) The Association of Engineering Education in Southeast Asia (AEESEA) will organize an on-going series of meetings on specific topics of common concern within the framework of long-term regional programmes concerned with engineering and technician education.
4) Those countries which do not have a national body for the interchange of ideas and comment on engineering education programmes should consider establishing one.
5) The meeting welcomed the suggestion that the AEESEA Secretariat study the feasibilities of establishing a Regional Training Centre for Technicians in Korea. The Centre would be established by the Korean National Commission for Unesco.

(*Bulletin de l'Association Internationale des Universités,* Vol. XXV, no. 2 (1977), pp. 124-125).

540. INDIA — INDE

— The University of Madras will set up a Master's programme in andragogy (adult education) as from July 1977.

The course is designed to meet the increasing demand of people trained in the principles and practices of adult education. The programme will be interdisciplinary and will enable students to acquire knowledge in fields essential to adult education, such as psychology, sociology, anthropology, etc. The postgraduate course will be open to candidates holding the Bachelor degree of Madras University or its equivalent. Duration of study will be four semesters, two in the first year and two in the second. The students will be required to submit a thesis.

(*International Association of Universities,* Vol. XXV, no. 3 (1977), p. 194).

55. IRAN

— The Teachers' Training College, Teheran, has changed its name and is now called the University for Teacher Education.

— En collaboration avec l'Association pour l'éducation technique dans le Sud et le Centre asiatiques (AEESCA) et le gouvernement iranien, l'Unesco a patronné un Séminaire régional sur la coopération éducation-industrie dans

les domaines de l'éducation, de la recherche et de la formation technique (Sud et Centre asiatiques), qui s'est tenu à l'Université Pahlavi, Shiraz, du 14 au 18 mars 1977.

Quatorze participants originaires d'Afghanistan, de Roumanie, d'Inde, d'Iran, de Mongolie, du Népal, du Pakistan et du Sri Lanka, ainsi qu'une vingtaine d'observateurs des institutions des Nations Unies et des institutions techniques d'Iran participaient à ce Séminaire, qui avait pour objectif de mettre en relief les problèmes et les perspectives de l'interaction entre l'éducation et l'industrie dans le domaine de la formation des ingénieurs.

Le Séminaire a également étudié les points suivants : le rôle du gouvernement ; les politiques et programmes pour le développement de la coopération entre l'industrie et les institutions pédagogiques dans la formation, la recherche, le développement des facultés ; et l'éducation permanente des ingénieurs en cours d'emploi.

Les recommandations du Séminaire sont notamment les suivantes : élaboration, à l'intention des personnels enseignant et non-enseignant, d'un programme destiné à les familiariser avec l'industrie et la recherche et à mettre à jour leurs connaissances professionnelles ; fixation et maintien des normes en matière de programmes d'études ; meilleure utilisation des installations existant dans la région et échange d'information entre pays ; création d'un institut ou d'un centre régional doté d'un personnel compétent et susceptible de fournir des informations sur l'industrie et la formation dans les pays de la région.

(*Association Internationale des Universités,* Vol. XXV, no. 4 (1977), pp. 293-294).

662. HAUTE VOLTA — UPPER VOLTA

— Un institut interdisciplinaire d'études audio-visuelles a été créé en 1976 à l'Université de Ouagadougou, avec le concours de l'Unesco.

666.8 CÔTE D'IVOIRE — IVORY COAST

— M. *Paul Akoto Ayo,* Ministre ivoirien de l'Éducation nationale, a annoncé la création, en 1978, de deux nouvelles universités, l'une à Bouaké, la deuxième ville du pays, et l'autre à Korhogo, dans le nord du pays.

La Côte-d'Ivoire ne compte jusqu'à présent qu'une seule université, l'Université nationale de Côte-d'Ivoire (environ 7000 étudiants).

Les instituts universitaires de technologie d'Abidjan ont été refondus au sein d'un nouvel établissement, l'Institut national supérieur de l'enseignement technique (INSET) d'Abidjan qui dépend du Ministère de l'Enseignement technique et de la Formation professionnelle. L'INSET regroupe maintenant quatre filières : deux d'enseignement long et deux d'enseignement court qui correspondent aux anciens I.U.T. et dont les études sont sanctionnées par le D.U.T. Ces filières sont les suivantes : École nationale supérieure d'ingénieurs (formation en 5 ans) ; École supérieure de commerce d'Abidjan (for-

mation en 5 ans) ; institut de technologie industrielle (formation en 2 ans), avec trois options (électronique, électromécanique, chimie industrielle) ; institut de technologie tertiaire (formation en 2 ans), avec deux options (gestion-commerce, finances-comptabilité).

(*Bulletin de l'Association Internationale des Universités,* Vol. XXV (1977), no. 2, p. 118).

675. ZAIRE

— Avec le concours du Programme des Nations Unies pour le Développement (PNUD) et de l'Unesco, l'Université nationale du Zaïre a créé un Bureau d'études post-universitaires (BEPUZA) chargé de l'organisation de la prise en charge des doctorants, tant pour leur encadrement que pour leur formation (UNAZA-Informations, bulletin d'information de l'Université nationale du Zaïre).

Ce Bureau exercera, dans un premier temps, son activité dans les disciplines suivantes : chimie, biologie, géographie, mathématiques, physique. Les Centres de formation doctorale ont été créés à la Faculté des sciences de Kinshasa (pour la chimie, la géographie physique et les mathématiques), à la Faculté des sciences du Campus universitaire de Kisangani pour la biologie, et à l'Institut pédagogique national de Kinshasa pour la géographie humaine. Les activités du BEPUZA s'étendront, à partir de l'année académique 1977-78, à toutes les disciplines scientifiques.

La création de ce Bureau répond au souci de remédier aux diverses difficultés que rencontraient les doctorants zaïrois (handicaps résultant pour eux des enseignements qu'ils dispensaient ; pénurie de documentation scientifique les poussant à partir à l'étranger pour présenter leurs thèses ; financement de leurs études par des organismes internationaux ; et choix de thèmes trop souvent éloignés des préoccupations zaïroises).

La nouvelle formule devrait notamment permettre de mieux encadrer les doctorants préparant des thèses d'intérêt national ; d'accroître le nombre des professeurs nationaux répondant mieux aux réalités locales ; d'augmenter le potentiel scientifique du pays ; de dégager les orientations scientifiques prioritaires ; de former des cadres scientifiques de haut niveau pour l'enseignement et pour la recherche ; et de développer les facilités en matière d'équipement spécialisé, pour les différents départements et laboratoires.

(*Association internationale des universités,* Vol. XXV, no. 3 (1977), p. 191).

71. CANADA

— Small Canadian universities are at a serious disadvantage when it comes to competing with larger institutions for research funds – and there is a pressing need to redress the balance. This is one of the main findings of a study group convened by The Canada Council to investigate the needs of scholars at small universities.

In a recently published report the Council identified 21 small universities where scholars had had below average success in obtaining research grants and in participating in the council's own Leave Fellowship programme.

It found that 44 per cent of all the money it distributed for social sciences went to the larger universities with more than 10,000 students whereas only 11.2 per cent went to institutions with less than 5,000 students.

And while an average of 431.87 dollars was spent per student on research in the larger universities (with more than 10,000 students, the figure dropped to 192.18 dollars for universities with less than 5,000 students and to 18.80 dollars for those with less than 1,000 students).

The Council convened a study group to study the special needs of the scholar at a small Canadian university after becoming increasingly aware over the past five years that some universities were less able to take advantage of the Council's research and leave fellowship programmes of grant aid than others.

Defining small universities as those which in the 1975-76 academic year had fewer than 3,500 students, they also included in their survey those universities in which there were scholars whose research needs were similar to those of small universities – new institutions, isolated institutions, and even in some cases small departments in relatively large universities.

Even before convening the consultative group the Council suspected that small universities shared a certain cluster of problems. At that early stage it hypothesized that the problems would include: the absence of a research tradition because the institutions were often young universities; high teaching loads because of the large number of undergraduate courses offered; and the absence of graduate studies which resulted in a shortage of research assistants and a lack of academic challenge.

Other problem they suspected included: a lack of internal funds for faculty research; inadequate secretarial assistance; a general absence of research facilities including library and archival resources; limited scholarly access to others working in the same field; and the fact that the institutions were often situated in relatively isolated communities.

After detailed study the group discovered that many of the problems of the small and often relatively new universities were associated with the way in which they had developed historically.

The demand for university expansion in the 1960s was so great that a policy of selective growth with a specific research orientation could not be achieved.

'Staff were hired without regard to research interest', the report says, 'and libraries were under pressure from a large new staff to expand holdings in a great many fields. The consequence was a lack of research focus in both library resources and in personnel'.

'Furthermore, hiring pressures during this period caused the small universities, normally with relatively low budgets, to employ many staff who had not yet completed their PhD.

'These young staff members immediately assumed heavy teaching responsibilities in terms of both numbers of students and variety of courses. Consequently, they often required up to 10 years to complete their final degree, during which period their list of publications often remained noticeably short.

'In competition with older researchers and others with many more publications to their credit, these young and relatively inexperienced and unproven professors were bound to fare rather poorly in competitive grant programmes.'

The expansion of the 1960s and 1970s also had an effect on the more senior personnel at small universities. They tended to get involved in administrative work and to drift away from research.

For those small universities that existed before the days of expansion emphasis was often placed on pedagogic education rather than on the discovery of new knowledge. Senior professors at such institutions tended to belong to the teaching – orientated tradition rather than the research tradition.

Summarizing the key hindrances to research in small universities the group singled out : the absence of academic recognition by their peers because of relative immobility and isolation ; the need for administrator recycling ; the paucity of local research resources ; the absence of research policies or priorities ; the lack of graduate assistants or a favourable research climate ; and a shortage of time because of the emphasis on teaching activities.

'Basically, scholars at small institutions are separated by a distance, both geographic and academic, from the active centres of research. They experience great difficulty in maintaining the participation and open communication necessary for truly advanced research', the group reported.

'This isolation combines with the general youthfulness of faculty at small universities to produce a situation in which opportunities are missed, skills go undeveloped, and interest flags.'

The group identified the importance of increased contact and access as the key need for the individual scholar at a small university. To remedy these deficiencies the group suggested three new research grant programmes.

One recommendation was that a research visits programme should be introduced to enable scholars to visit other universities where there might be greater opportunities to carry out their research.

The second was that research workshops should be arranged to stimulate and advance research by focusing on research methodologies and to introduce the 'nascent' researcher, primarily at small universities, to the methods, techniques and main problems associated with his particular proposed area of study.

The group's final suggestion was that all universities should be given a supplementary grant specifically earmarked for bringing research consultants to isolated or disadvantaged centres.

Although the group's recommendations have not yet been implemented The Canada Council has welcomed its 'thoughtful' suggestions and have

promised to give them careful consideration when further funds become available.

'Needs of Scholars at Small Universities' by the Consultative Group on the Needs of Scholars at Small Universities is available from The Canada Council, PO Box 1047, Ottawa, Ontario, KIP 5V8 at $ 2.50.

(*The Times Higher Education Supplement*, no. 322 (1977), p. 9).

73. U.S.A. — E.U.A.

— Ohio State University's Centre for Vocational Education has been designated the National Centre for Research in Vocational Education by the United States Office of Education. The government will provide operating funds of $ 4.5 m a year up to 1982.

— *Richard E. Schutz*, Executive Director of the Southwest Regional Laboratory for Educational R&D, has been appointed editor of the 'American Educational Research Journal' commencing with Volume 15 (1978), to succeed *Maryellen McSweeney*, St. Louis University.

Schutz, who concludes two terms as editor of the 'Educational Researcher' with the 1977 volume, also served as editor of the 'Journal of Educational Measurement' from 1964 tot 1968, and has been co-editor of several texts, including 'Instructional Product Development' (New York, Van Nostrand, 1971) and 'Instructional Product Research' (New York, Van Nostrand, 1972). The author of numerous journal articles, he has also been very active in AERA. Currently vice president of Division C, he served as the first chairman of the Research Training Committee (then called the Presession Committee), and has served on the Long-Range Planning and the Governance and Structure committees as well as the Board of Editorial Advisors of the annual 'Review of Research in Education' (1973-75).

Director of SWRL since its founding in 1966, *Schutz* also served on the faculty of Arizona State University from 1957 to 1966.

(*Educational Researcher*, Vol. 6, no. 8 (1977), p. 21).

— From Dr. *Boris Blai*, Jr., Dean of Administration, Harcum Junior College, Bryn Mawr, we received the following reports :

- 'Published articles abstracts (1973-1977)' ;
- 'Supplement 1 to Cumulative Index (Nov. 1976) of IR Reports and Published Articles' ;
- 'A Decade of Feedback Information from Harcum Graduates : 1968-1977' ;
- 'Faculty Attitudes Regarding Teaching' ;
- 'Non-Intellective Predictors of Academic Success' ;
- 'Harcum Students : Their Motivation and Learning'.

Interested readers may write to Dr. *Blai* for a copy of these reports : Harcum Junior College, Bryn Mawr, Pennsylvania 19010.

INFORMATION COMPILED

by

PROF. DR. WM. REITZ and PROF. DR. C. IRWIN
Wayne State University
and graduate students enrolled in courses in Educational
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— The average cost of educating a student in the United States public schools increased 10 % over last year. A survey of school districts conducted by Market Data Retrieval, Inc. of Connecticut, reported this increase in 'National Comparison : Local School Costs'. Survey indicated costs increased by $ 115.31 per student during 1975-76, to a new high of $ 1,283.53 per student. Survey noted that since the 1967-68 school year, education costs have increased 132 %, while the Consumer Price Index increased 59.3 % during the same period.

(*Phi Delta Kappan,* Vol. 58, No. 2 (1976), p. 222).

— The National Assessment of Educational Progress (NAEP) is based on many of the same assumptions as other achievement testing programs. In 'NAEP's implicit assumptions', *B. Taylor* examines eight of the assumptions :

1. Responses on paper and pencil and/or oral tests reflect what respondents will do in real life.
2. All Americans have a common set of cultural values.
3. National assessment is assessing knowledge learned in school.
4. Educational system should be held accountable for how well informed citizens are.
5. National assessment may establish goals and objectives that will meet the needs of the nation and its entire population.
6. Statistical sampling techniques and procedures have been developed to the point that a truly representative sample can be drawn.
7. There is a common body of knowledge, attitudes, and skills to be mastered by students for each subject area and at each age level and these can be assessed.
8. Interpretations of National Assessment Educational Program may be made that have application to all Americans in some universial manner.

There is some controversy about the assumptions. This article suggests that National Assessment should make a public examination of its assumptions.

(*Educational Leadership,* Oct. 1977, pp. 47-51).

— A new center for Law and the Deaf will be operating at George Washington University and Gallaudet College. Funded by the U.S. Office of Education there has been an allocation of $ 240,000 for the 30 month project. *Glenn Goldberg* who is the Executive Director of the Center stated that the program involves : 1) informing deaf people about legal problems and legal services, 2) providing legal representation and advocacy for deaf people and their interests, 3) facilitating the law school education of deaf pupils and 4) developing an informational clearing house on deaf related problems and remedies in the deaf community.

— The Training Institute for Desegregated Education (TIDE) of the College of Education, Wayne State University is completing its second year of operation. The project which is funded by the U.S. Office of Education has operated in twenty-two (22) schools and six (6) decentralized regions of the Detroit Public Schools. This Training Institute is a program of staff development and in-service training for personnel of the Detroit Public Schools. The purpose of training is to develop skills and strategies whereby racism and sexism are reduced or eliminated from the educational experience of students. During the next two months, the project staff and participants will be involved in feedback and evaluation activities to determine the effectiveness and impact of the program.

— *J. Earle* gives an overview of the 'Chicano Education Project' in her article 'Se Habla Español'. Chicano parents unhappy with the education their children received, demanded bilingual-bicultural education. In 1973 three Chicano men started the Chicano Education Project with their own money. They organized community groups after they had made frustrating efforts to engage the support of the local school board, city council and the police department. In addition to the Project, Chicano parents with the help of some teachers, won a hard-fought battle in the State of Colorado legislature which finally resulted in the passage of the Bilingual-Bicultural Education Act. This law requires that schools in which 10 % of the school population or 50 children whose families speak a language different from English must offer bilingual-bicultural education from kindergarten through the third grade. After that students have the option to continue in the bilingual classroom. These two events – the Chicano Education Project and the Bilingual-Bicultural Education Act has been a major accomplishment for the improvement of the education of Chicano children and has improved relationships between Anglos and Chicanos.

(*Today's Education*, Nov./Dec. 1977, pp. 76-77).

— *C. J. Anderson* and *F. Leff* wrote an article on 'Global Education in Elementary Schools : An Overview'. The purpose of this work was to answer two questions : (1) What is global education ? and (2) What should be the objectives of global education ?

The answer to the first question included the transmission to the next generation of a rich image of the total earth. An extension and enlargement of the school's traditional time-honored responsibility of preparing children for responsible and effective citizenship. To educate them for responsible involvement and effective participation in global society.

The objectives were stated in four areas of competence : (1) development of a competence in perceiving one's involvement in global society, (2) competence in making decisions, (3) competence in making judgments (development of analytical skills and emotional capacities), and (4) competence in exercising influence.

(*Social Education,* Vol. 41 (Jan. 1977), pp. 76-80).

— *D. W. Carnine* wrote an article on the 'Effects of two teacher-presentation rates on off-task behavior, answering correctly, and participation'. The rate of teacher-presentation is the independent variable in a study which seeks behavior change in the classroom activities of low-achieving first graders in beginning reading instruction. Fast-rate teacher presentation is expected to produce a decrease in off-task classroom behavior, an increase in answering questions correctly and an increase in classroom participation. The opposite is expected when the teacher-presentation rate is slow. An ABABAB (reversal) design is used ; slow-rate presentation (A) is compared with fast-rate presentation (B). Praise is used as a positive reinforcer for correct answering *after* a 90-second delay so as not to confound the effects of the intervention technique : teacher-presentation rate. Confirmed is the experimenter's expectation that fast-rate presentation results in lower occurrences of off-task classroom behavior and concurrent higher occurrences of answering correctly and participation.

(*Journal of Applied Behavior Analysis,* Vol. 9 (1976), pp. 199-206).

— *Carolyn H. Denham* of California State University, Long Beach, and *James Keese,* a councelor at Lennox (California) Elementary School, have conducted a study on aggression in the elementary classroom. *Denham* and *Keese,* noting that most research has concerned itself with the aggressor and not the victim, proceded to attempt a study of victims in a parochial classroom. The researchers found that both teachers and students showed substantial agreement in identification of victims, past and future. They found that for both boys and girls, the victim was a 'social misfit' ; findings show that victims were 'more likely to be socially rejected, to differ in appearance, to have different interests, and to lack athletic ability. Such postulations may suggest solutions to an ever-increasing violent element in society. The study was conducted with 205 boys and 207 girls in fifth and sixth grade parochial school classrooms with lay teachers.

(*The Journal of Educational Research,* Vol. 70, 4 (1977), pp. 192-194).

— 'The concept and measurement of the quality of school life' is the title of an article written by *J. L. Epstein* and *J. M. McPartland.* The purpose of

the study is to describe the multidimensional properties and research potential of the Quality of School Life scale (QSL) as a validated instrument to measure and compare across grade level reactions of students towards school, school work, and to teachers. The QSL scale is a 27-item instrument with three subscales : Satisfication with school (SAT), measuring general reactions to school (5 items) ; Committment to Classwork (COM), viewing student interest towards school work (11 items) ; and Reaction to Teachers (TCH), dealing with student-teacher relationships. The survey was administered in the Spring, 1973 to grades 4, 5, 6, 8, and 11, and a follow-up in the Spring, 1974 to grades 5, 6, 7, 9, and 12. The total sample consisted of 4,266 students from a single county in Maryland. The QSL scale and subscales demonstrated high reliability coefficients with all subgroups within the population tested. Concurrent validity was obtained for grades 6-12 by correlating the QSL with school performance, school evaluation, family experience, personality measures, and personal aspirations. These variables were obtained through questionnaires, open-ended written comments, peer and teacher nomination, and achievement test gathered at the time of the survey. Internal consistency was validated by using Sechest's (1971) method of intercorrelation between subscales (.70 secondary grades, and .54 elementary grades), and external discrimination through factor analysis. The developers believe the QSL scale is a sensitive instrument for detecting changes in school organization. Innovative programs being developed to improve the quality of school life can now be measured by the QSL scale to ascertain their position of change. The scale has not been used below grade four.

(*American Educational Research Journal,* Vol. 13, No. 1 (1976), pp. 15-30).

— *S. Frey* published 'A Validity and Reliability Study of a Report of Self-Concept : Adolescent Form'. The adolescent form of the self concept scale was administered to 255 students in grades seven through twelve, in various suburban Chicago school districts. The scale is based on Havighurst's developmental task model. Each person had to read a paragraph, which explained a task, then record his opinion of the task as the way he perceived and felt his ability to achieve the task in relation to what he could do, what others have done and what it would take to be successful at the task. Teachers were required to rate the students responses to the tasks. Data on the validity of the scale were derived by using the Pearson Product Moment Correlation, to compare student to teacher responses by relationships within each task. At .001 significance level the coefficients of correlation varied from .41 to .63 for the eight tasks. A reliability coefficient of .88 was attained using the Kuder-Richardson 21 formula. The scale has been found to be very useful to educators and specialists in pupil personnel work.

— *S. H. Getsinger* and *N. J. Garfield* conducted a study on 'Male Students' Perceptions of Counselors, Guidance Counselors, and Counseling Psychologists' at a large midwestern university in 1976 to measure male students' perceptions of counselors, counseling psychologists and guidance counselors. The subjects

consisted of 50 male undergraduate student volunteers living in a residence hall which was randomly selected. Each subject rated each of the three professional role titles by completing a semantic differential instrument. The results indicated that the students did not consider the roles different in terms of value or power but did associate certain functions with each role. The students preferred to discuss personal problems with counseling psychologists and occupational problems with counselors and guidance counselors. In addition the students indicated a reluctance to seek professional assistance in general.

(*Journal of College Student Personnel*, Vol. 17, No. 1 (1976), pp. 7-10).

— In his article on 'The gathering storm over bilingual education', *T. Iiams* examines the many problems bilingualism and in some cases trilingualism have caused in various places of the world. Whether its mandatory Africaans for Bantu children in South Africa or Hindi being the official language used for civil service jobs in India, it adds up to the same thing. Large numbers of people feel they are being discriminated against one way or another. In the U. S., there is a quilted pattern of ethnic groups that are promoting bilingualism. Native Americans, Canadian French, Spanish-surnamed and other groups are demanding to be heard. Unfortunately, a clearly defined rationale has not come about. Studies that were done by *Lambert* and *Peal* of McGill University presented solid evidence that some children can be taught in two languages with no adverse effects on academic achievement. French Catholic Schools of Montreal and St. Lambert School in suburban Montreal were studies cited.

(*Phi Delta Kappan*, LIX (Dec. 1977), pp. 226-230).

— *C. U. Iacono, J. T. Kunce* and *G. Nagle* published an article on 'Predicting academic success of high risk students.'. They conducted a study at the University of Columbus during the 1974-1975 academic year. The purpose of the study was to investigate the personal and intellectual characteristics of high risk applicants and to determine whether predictions regarding academic success were possible. Prediction scores for each student were based on the five variables: high school rank, math placement scores, previous college attendance, marital status, and vocational plans. Index scores of accepted high risk students were compared to a group of students who had unsuccessfully appealed admission denial. The index scores for high-risk students (those gaining acceptance) correlated significantly with their grade point average. It was suggested by the researchers that a trial use of the index be used to screen future applicants.

(*The Journal of College Student Personnel*, Vol. 17, 1 (1976), pp. 72-76).

— In his paper on 'The influence of research on education practice', *F. N. Kerlinger* explains the basic purpose of scientific educational research and its relation to American society. Various misconceptions involving scientific research and the pragmatic uses of research results are discussed. Much of

the article is devoted to the affect of research in education and how research efforts can be put to optimum use in the practical educational environment.
(*Educational Researcher*, 6 (Sept. 1977), pp. 5-12).

— 'Effect of music via television as reinforcement for correct mathematics' is the title of an article written by *C. Madsen, L. Dorow, R. Moore* and *J. Womble*. The study was conducted to determine : 1) whether contingent music listening via television would increase correct responses to math problems compared to no reinforcement, and 2) whether students would also learn music listening skills while being reinforced for correct academic achievement. The subjects, 83 first graders randomly chosen from the Leon County school system, were randomly assigned to one of four groups : 1) Televised music lessons contingent upon correct math responses ; 2) Partial contingency of televised music lessons for correct math responses ; 3) Contact control ; and 4) No-contact control. Results indicated that correct math responses increased with the televised music listening contingency and music listening skills increased.
(*Journal of Research in Music Education*, Vol. 24 (1976), pp. 51-59).

— *M. L. Maehr* is the author of 'Continuing motivation : an analysis of a seldom considered educational outcome'. As a pattern of education-related behavior continuing motivation may be *the* critical outcome of any learning experience, so to encourage further study Maehr has extensively outlined related research by himself and others. He suggests several evaluative methods – all observational : verbal commitment, returning behavior, taking or ordening task materials, follow-up class-related tasks outside of school. He describes as antecedents : person-related, situational, person-related-situational, and contextual/cultural causes – all of which converge on the importance of self-regard. The implications for teachers and students warrant further study.
(*Review of Educational Research*, No. 46 (1976), pp. 443-462).

— *A. Popalia* published an article on 'Teachers attitude toward current trends in language instruction'. He administered a questionnaire to three groups of foreign language teachers. The first group had five or more years of teaching experience, their academic preparation was at the master's degree level. The second group had one to four years of teaching experience and the third group were prospective foreign language teachers. *Popalia* found a significant difference among the three groups in regards to 'self-pacing, differentiated homework, testing for mastery and small group instruction.' Prospective teachers were highly in favor of new trends while the two experiences groups were more cautious in trying out new trends.
(*Canadian Modern Language Review*, Jan. 1977, pp. 344-348).

— In 'Does the use of newspapers in the classroom affect attitudes of students ?' *Z. Verner* and *L. Murphy* describe a study done in an inner city high school in Houston, Texas, which attempted to provide empirical evidence

of the effects of the use of newspapers in the classroom on the attitudes of students. The study was conducted by the article's authors, who are employed by the University of Houston.

The study utilized 148 students in six academic classes where newspapers were used daily for four weeks. The extent and use of the newspapers was determined by the individual teachers. Students responded to semantic differential instruments designed to measure attitudes toward subject matter, school, community, nation, self and the newspaper. Attitudes were assessed before and after the four weeks use of newspapers.

The findings of the study showed a slight but consistent increase in positive change in their attitudes toward the city.

The study was limited in scope in that it did not distinguish between the kinds of classes, nor the types of teaching techniques which bring about the greatest positive changes. Statistically, it was limited in the analysis of data showing only a comparison of group means.

The results of the study suggest that the use of newspapers may contribute toward positive attitudinal change in students, especially toward the community and school. It also provides further empirical support for those teachers and educational consultants who believe that the newspaper is an important learning medium.

(*The Clearing House*, Vol. 50, No. 8 (1977), pp. 350-351).

— 'Teaching sequential thought: the cognitive skills approach' is the title of an article written by *A. Whimbey*. Reasoning ability is an unquestioned prerequisite for learning. A method called the cognitive-skills approach attempts a formal development of this skill. This method is designed to lead students stepwise through the problem solving procedure. The student expresses his thoughts either written or orally. With teacher assistance in analyzing his steps he hopefully perceives the necessity for order. This method has been used successfully in a variety of disciplines. Subsequently, it has been shown that students who have been taught this procedure demonstrate significant improvement on general I.Q. test.

(*Phi Delta Kappa*, 59 (Dec. 1977), pp. 255-259).

— A study comparing the effectiveness of the discovery and verbal reception teaching methods on a number of unilingual and bilingual subjects ranging in age from 70 to 80 months was performed by *E. Williams* and *J. Adams* in their article 'Learning by the discovery and verbal reception methods in bilingual and unilingual children'. The unilingual subjects were taught in English while the bilingual subjects were taught in either their primary language, Spanish, or their secondary language, English. The results indicated that regardless of language or method of instruction, bilingual subjects took longer to acquire the conceptual rule than unilingual subjects. The retention and transfer performance of unilingual and bilingual subjects taught in their primary language was best when verbal reception method was used. When

taught in their secondary language, however, the retention of bilingual subjects was better utilizing the discovery method.

(*The Journal of Educational Research*, Vol. 69, No. 4 (1975), pp. 142-145).

861. COLOMBIA

— Organized by the International Institute for Educational Planning in co-operation with the Departamento de Administración y Planeamiento Educativo of the Universidad del Valle, Cali, an intensive course on planning the location of schools was held in Buga, Colombia, from 25 October to 19 November 1976.

This course, for which the Colombian Ministry of Education and the Unesco Regional Office for Education gave support, was the first IIEP course organized in Latin America ; it was attented by some 25 participants from Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guatemala, Panama, Peru, Surinam and Venezuela, and from different backgrounds (universities, school building centres, offices of physical planning offices of educational planning), and who were involved directly either in training in the field of school mapping or in charge of planning the location of schools at national and/or provincial and local levels.

The course included a set of theoretical lectures and discussion sessions ; round table discussions ; a comprehensive simulation exercise using figures extracted from the IIEP case study on the district of San Ramon in Costa Rica ; preparation of a project based upon a field visit and intensive study of the educational region of Buga ; and direct consultation sessions on individual national programmes and projects in the field of school mapping.

(*International Association of Universities*, Vol. XXV, no. 3 (1977), pp 193-194).

914. PHILIPINES

— We received the first issue of 'Danyag', a journal of studies in the humanities, education and in the sciences, basic and applied. The journal is edited by the U.P. College Iloilo.

941. AUSTRALIA — AUSTRALIE

— The new Tertiary Education Commission, which replaces the University Commission, the Commission on Advanced Education and the Technical and Further Education Commission, came into operation on 22 June 1977.

The Commission, the creation of which was announced in January 1977, has appointed, as its Head, *Peter Karmel* who was Chairman of the former Universities Commission from 1971.

The Government believes the new arrangements will help the Commission in its co-ordinating rôle while giving each Council important responsibilities within its own area of specialization. The Tertiary Education Commission will have the overall responsibility for recommending programmes for the 1978-80 rolling triennium within a number of financial guidelines set by the Government.

For example, the base funds allocated for universities and colleges for 1978 will each be at the same levels in real terms as the base allocation for 1977, subject to additional funds for non-government teachers' colleges. For 1978 the Government also expects the university sector to maintain its intake of students at the present level. Furthermore, in deciding upon the levels of funding it will recommend for capital expenditure in 1978, the Government expects the Commission to review all projects except those for which contractual building commitments have been entered into. No new universities or colleges are to be established within the triennium.

Next, the allocation for technical and further education in the states in 1978 will be a base programme representing an increase of 10 % in real terms over the base allocation for 1977. The Government is asking the Commission to pay special attention to the requirements of this sector. It is intended that, in formulating its recommendations, the Commission should have regard to the overall provision of opportunities for tertiary education, including the greater rationalization of the use of resources and the more extensive use of facilities throughout the year.

(*International Association of Universities*, Vol. XXV, nr. 4 (1977), p. 272).

— The following doctoral dissertations are being prepared at Monash University, Clayton, Victoria.

– *G. W. Beeson*, 'Effects of context on hierarchical learning' (director : Prof. *M. Balson*) ;

– *B. J. Fraser*, 'Evaluation of A.S.E.P.' (director : Prof. *L. D. Mackay*) ;

– *R. Lewis*, 'The effect of selected teacher and student behaviour on the cognitive and affective objectives of PSSC physics' (director : Prof. *P. J. Fensham*) ;

– *R. A. Docking*, 'Staff-student interaction at tertiary level' (director : Prof. *R. Taft*).

COMMUNICATIONES

General Secretariat

of the

World Association for Educational Research

Secrétariat Général

de

L'Association Mondiale des Sciences de L'Education

Prof. Dr. M.-L. van HERREWEGHE

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COMMUNICATIONS OF W.A.E.R.

COMMUNICATIONS DE L'A.M.S.E.

Reactions received by the General Secretariat concerning the 7th World Congress of W.A.E.R.

Réactions parvenues au Secrétariat Général au sujet du 7e Congrès Mondial de l'A.M.S.E.

— The General Secretariat of W.A.E.R. has sent the final motion of the 7th World Congres of I.A.A.E.R. – as well as the motion presented at the South American afternoon – to the Ambassadors of countries represented at the congress, as well as to the Ambassadors present at the opening session, and to Ambassadors who expressed the wish to be informed on the congress activities.

From various embassies we received an answer which expressed their estimations towards W.A.E.R., and a major esteem towards educational sciences. Please, find some extracts of these locutions below.

Le Secrétariat Général de l'A.M.S.E. a envoyé la motion finale du 7ème Congrès Mondial de l'A.I.S.E. – ainsi que la Motion présentée au cours de l'après-midi Sud-Américaine – aux Ambassadeurs des pays qui étaient représentés au Congrès ainsi qu'aux Ambassadeurs présents à la séance d'ouverture et aux Ambassadeurs qui ont exprimés le désir d'être informés sur le travail du Congrès.

De plusieurs ambassades nous avons reçu une réponse qui était un témoignage de reconnaissance envers l'A.M.S.E. et exprimait une considération majeure des Sciences de l'Éducation. Veuillez trouver ci-dessous quelques extraits de ces témoignages :

For your information I will quote a paragraph of the Address of State by H.E. President Soeharto before the House of the People's Representatives on August 17, 1977, which stressed the importance of education as follows: '... To preserve the cohesiveness of the Nation and to accelerate development in the future, considerable attention is attached to the promotion of the young generation, including university students. Various educational means, from elementary schools to universities, and also extra-curricular, are continuously improved, corresponding with the State's financial capability...'

RIKUSWORO, Deputy Chief of Mission / Minister, Embassy of the Republic of Indonesia.

It was a great privilege for me to attend the opening session of the Congress, and I share your hope that the motion will receive the serious and sympathetic consideration of governments in all countries which are concerned with the promotion through education of the self-realization of their individual citizens.

J. O'NEIL LEWIS, Ambassador of Trinidad and Tobago.

'I am most grateful for the two statements, which may be of assistance to myself and my government when similar considerations in the field of educational research are being made.'

W. K. NKOWANI, Ambassador of the Republic of Zambia.

In the same spirit of appreciation and esteem of the value of the human science of education for the civilization of the future generations, we received positive and cooperative reactions of Austria, Cuba, Greece, Guatemala, France, the Netherlands and Togo.

Et dans le même esprit d'appréciation et de reconnaissance de la valeur des sciences humaines de l'éducation pour le travail de civilisation à apporter aux générations futures nous avons reçu des réactions positives et coopératrices de l'Autriche, Cuba, Grèce, Guatemala, France, Pays-Bas, Togo.

— Most of the congressists, coming from 57 countries, have sent us their appreciation and opinions on the world meeting made possible by the Gent Congress. This has been a great stimulant, on the one hand, for the organizers and all co-operators who were involved. On the other hand, it meant a valuable aid for the organization for the future work of the association and for an orientation for a world-scale inter-university co-operation.

La plupart des congressistes des 57 pays présents nous ont envoyés leur appréciations et leurs opinions au sujet de la rencontre mondiale à laquelle le Congrès de Gent a donné lieu. Ce fut un réconfort d'une part pour les organisateurs et tous les collaborateurs qui s'étaient engagés, chacun à sa place, pour y mettre de leur propre personne. D'autre part ce fut une aide de valeur pour l'organisation du futur travail de l'Association, et pour une orientation au sujet de la collaboration inter-universitaire à l'échelle mondiale.

Acknowledgements

Remerciements à l'Adresse des Collaborateurs Scientifiques au 7e Congrès de l'A.M.S.E.

— We would like to thank in particular the rapporteurs of the Congress, who have informed us on the value of education for the realization of personality, and this
- according to their viewpoint
- according to the specificity of their research
- according to the specific scientific conceptions, inspired by the society of which they belong,

and who have instigated us to reflect upon the education of the personality of the youngsters and the work performed in this domain, which is, indeed, a most fundamental and extensive field of human endeavour.

— We would like to express our thanks towards our colleagues – presidents of the afternoon-meetings. With competence, comprehension and involvement

they have been willing to steer those multiple and often very diverse interventions, which constituted a remarkable input to the congress theme.

— We would also like to thank the authors who have responded immediately to our request to prepare their texts for publication in the congress proceedings. We hope that the two volumes can be published at the end of 1978 – beginning 1979.

— We would like to thank more in particular the colleagues who have taken the initiative to inform the educational world on the activities of the association by summarizing the activities of the Congress in their journals or national publications.

— Nous tenons à remercier tout particulièrement les rapporteurs du Congrès, qui nous ont informés au sujet de la valeur de l'éducation dans la réalisation de la personnalité,
– suivant leur point de vue,
– suivant les particularités de leurs recherches,
– suivant les conceptions spécifiques inspirées par la société à laquelle ils appartiennent,
et nous ont mis à la réflexion sur l'éducation de la personnalité des jeunes et au travail dans ce domaine, sans aucun doute un des plus vastes et des plus fondamentaux de l'humanité entière.

— Nous désirons exprimer toute notre gratitude envers nos collègues-présidents des sessions d'après-midi, qui avec compétence, compréhension et engagement ont bien voulu organiser ces interventions multiples et souvent très diverses mais qui constituaient un apport remarquable dans l'approche du thème du Congrès.

— Nos remerciements, nous désirons les exprimer également envers tous les auteurs des rapports qui ont donné immédiatement suite à notre demande de bien vouloir préparer leur texte pour la publication des Actes du Congrès. Nous espérons que les deux volumes pourront sortir de presse fin 1978 - début 1979.

— Tout particulièrement nous voulons remercier les collègues qui ont pris l'initiative d'informer le monde éducatif sur les activités de l'Association et qui ont fournis un compte rendu du Congrès dans leurs revues ou publications nationales.

News of the Board of the Association

Nouvelles du Bureau de l'Association

— The Board of the Association has been invited by Professor Dr. H. KLEIN, Rector of the Humboldt University of Berlin (D.D.R.), to have its first working-session at his university (April 9-11, 1978).

Topics discussed were :
1. The revision and adaptation of the regulations according to the decisions taken on the occasion of the General Assembly at the 7th Congress ;
2. The elaboration of an educational action project on world scale level, taking into account the responsibility of educational researchers with regard to a world being always on the move towards a worthier and nobler humanization.
3. Our Association and '1979 – year of the child'.
An account of these activities as well as the revised regulations will be sent to the members of the Association.
— Le Bureau de l'Association a été invité par le Professeur Dr. H. KLEIN, Recteur de la Humboldt Universität zu Berlin de la République Démocratique Allemande à tenir sa première rencontre de travail au sein de son Université (9-11 avril 1978).
Au programme figurait :
1. La révision et l'adaptation des statuts suivant les décisions prises par l'Assemblée Générale lors du 7e Congrès à Gent.
2. L'élaboration d'un projet d'action pédagogique au niveau mondial, compte tenu de la responsabilité des travailleurs scientifiques en éducation vis-à-vis d'un monde toujours en voie d'une humanisation plus digne et plus noble.
3. Notre Association et « 1979 – année de l'enfant ».
Un compte rendu de ces activités et les statuts revus et corrigés seront envoyés sous pli séparé aux collègues membres de l'Association.

The General Secretariat of W.A.E.R.

Secrétariat Général de l'A.M.S.E.

— On its meeting in Gent, July 25, 1977, the General Assembly decided to entrust the organization of the General Secretariat of W.A.E.R., on a permanent basis, to the Rijksuniversiteit Gent, Prof. Dr. M.-L. VAN HERREWEGHE, Pedagogisch Laboratorium, Henri Duantlaan 1, B-9000 Gent, Belgium.

— Within the General Secretariat, and under Prof. Dr. M.-L. VAN HERREWEGHE's supervision, the following secretariats function :
– the secretariat for scientific co-operation : Prof. Dr. K. DE CLERCK ;
– the secretariat for publications : J. SOUVAGE ;
– the administrative secretariat : L. VAN LOO-VAN IMSCHOOT and C. LAMPROYE ;
– the secretariat for socio-cultural relations : V. VERRIET-HENDERICKX.

— Urgent activities which have to be performed by the General Secretariat in the first place, include :
– the publication of the 'Communicationes' – inserted twice a year in Scientia Paedagogica Experimentalis. These 'Communicationes' will be sent to all members of the W.A.E.R.

Members who have paid their contribution and who have personally subscribed to Scientia Paedagogica Experimentalis, will receive a 40 % reduction on the journal ;
– the publication of the reports of the 7th World Congress ;
– the compilation of information to be included in 'Communicationes' concerning books, scientific publications, new journals, edited by the members of the association.
The 'Communicationes' will be subdivided in different sections, which can, however, be modified according to the needs of the moment, or to the evolution which this publication must necessarily follow. Among the most essential sections, we quote :
– Communications of W.A.E.R.
– Information on the members of the Association
– Communications by colleagues
– Communications by important authors who send their publications to the Secretariat in order to distribute them among the colleagues, or by organizations working on university level or on the human level in the domain of education.
– Information concerning congresses, colloquies or other scientific meetings in the field of research in the university teaching of educational sciences.
– Received publications.

Il fut décidé par l'Assemblée Générale réunie à Gent le 25 juillet 1977 de confier l'organisation du Secrétariat Général de l'A.M.S.E. à titre permanent à la Rijksuniversiteit Gent, Professeur Dr. M.-L. VAN HERREWEGHE, Pedagogisch Laboratorium, Henri Dunantlaan 1, B-9000 Gent (Belgique).

— Dans le Secrétariat Général, sous la direction du Professeur Dr. M.-L. VAN HERREWEGHE, fonctionne :
– le secrétariat pour la coopération scientifique : Professeur Dr. K. DE CLERCK;
– le secrétariat pour les publications : J. SOUVAGE ;
– le secrétariat d'administration : L. VAN LOO-VAN IMSCHOOT et C. LAMPROYE ;
– le secrétariat pour les relations socio-culturelles : V. VERRIET-HENDERICKX.

— Les activités urgentes lesquelles le Secrétariat Général doit prendre à charge en premier lieu sont :
– l'édition de « Communicationes » – reprises deux fois par an dans Scientia Paedagogica Experimentalis. Ces « Communicationes » seront envoyées à tous les membres de l'A.M.S.E.
Aux membres qui ont payé leur cotisation et sont abonnés à titre personnel à Scientia Paedagogica Experimentalis, sera accordé une réduction sur la revue, de l'ordre de 40 % ;
– l'édition des Actes du 7ème Congrès Mondial ;
– la rédaction des informations à fournir par « Communicationes » au sujet

des livres, publications scientifiques, revues nouvelles, éditées par les membres de l'Association.
Les « Communicationes » comprendront différentes rubriques, qui toutefois peuvent être sousmises à des modifications suivant la nécessité du moment ou l'évolution que cette publication doit nécessairement suivre.
Parmi les rubriques essentielles nous avons choisis pour :
– Communications de l'A.M.S.E.
– Informations concernant les membres de l'Association.
– Communications de collègues.
– Communications d'auteurs importants qui envoient leurs publications au Secrétariat pour diffusion aux collègues, ou d'organisations travaillant au niveau universitaire ou humanitaire dans le domaine de l'éducation.
– Informations au sujet de Congrès, Colloques ou autres rencontres d'ordre scientifique au niveau de la recherche ou de l'enseignement universitaire des sciences de l'éducation.
– Publications reçues.

Collaboration with the General Secretariat

Collaboration avec le Secrétariat Général

— We would like to address our colleagues-members and ask them to assist us by sending us all useful information, and which certainly is of interest to all the colleagues, e.g. on :

1. – nomination
   – instauration
   – promotion
   – superannuation
   – modifications in teaching qualifications or other changes concerning the the scientific career ;
2. their publications or research in progress, published books or articles, a brief summary of which could be included in the « Communicationes » ;
3. changes of private and professional address ;
4. the development of our association by interesting their colleagues or old students working in the field of education, to the activities of W.A.E.R.

— Nous nous permettons de nous adresser aux collègues-membres de l'Association et de leur demander de bien vouloir nous venir en aide en nous envoyant toute information utile et qui sans doute intéresse tous les collègues, au sujet notamment de :

1. – nomination
   – instauration
   – promotion
   – distinction
   – admission à l'éméritat

– modification dans la charge d'enseignement ou autres changements se référant à la carrière scientifique ;
2. Leurs publications ou recherches en cours, et livres ou articles publiés, dont un bref résumé pourrait être repris dans les « Communicationes » ;
3. changements d'adresse personnelle ou de service ;
4. développement de notre association en intéressant leurs collègues ou leurs anciens élèves chercheurs dans le domaine de l'éducation, aux activités de l'A.M.S.E.

6ème Congrès de l'Association Internationale des Sciences de l'Éducation

— Nous tenons à attirer l'attention toute particulière de nos lecteurs sur la publication des actes du 6ème Congrès Mondial des Sciences de l'Éducation (Paris 1973).

Comme thème de ce congrès les organisateurs avaient choisi : « L'apport de sciences fondamentales aux sciences de l'éducation » – « The contribution of fundamental sciences to educational sciences ».

La présidence d'honneur y fut tenu par le Professeur M. DEBESSE, la présidence par le professeur G. MIALARET, et le Secrétariat par Mme POPOVIĆS. Toutes les universités de France étaient représentées dans le Comité d'organisation.

Ces actes sont publiés en deux volumes et contiennent toutes les communications présentées aux Congrès et un compte rendu de toutes les discussions auxquelles elles ont donné lieu.

L'ensemble de ces deux volumes contient une richesse d'idées personnelles, de résultats de recherche et de problèmes nouveaux qui peuvent signifier un riche point de départ dans le travail scientifique de l'éducation.

Données bibliographiques :

VI : Congrès International des Sciences de l'éducation, « L'apport de sciences fondamentales aux sciences de l'éducation » –« The contribution of fundamental sciences to educational sciences », EPI, Tome I, 528 p., Tome II, 528 p., 1976.

Adresse de commande :

Laboratoire de Psycho-Pédagogie
Université de Caen
14032-Caen-Cedex
France

Nous tenons à informer nos membres qu'en ce moment les deux volumes du 6ème Congrès peuvent encore être obtenus au prix de $ 25.

6th Congress of the International Association for the Advancement of Educational Research

— We wish to draw the attention of our readers on the publication of the reports of the 6th World Congress of the International Association for the Advancement of Educational Research (Paris, 1973).

The congress organizers had chosen as a theme : 'L'apport de sciences fondamentales aux sciences de l'éducation' – 'The contribution of fundamental sciences to educational sciences'.

Honorary President of the Congress was Prof. Dr. M. DEBESSE, President of the Congress was Prof. Dr. G. MIALARET, and the secretariat was performed by Mrs. POPOVICS. All French universities were represented in the Organizing Committee.

The reports are published in two volumes and include all the communications which were presented to the congress and an account of all the discussions issuing from the communications.

These two volumes present a wealth of personal ideas, of research outcomes, and of new problems which might signify a starting point for scientific research in education.

Bibliographical data :

VI : Congrès International des Sciences de l'Education, 'L'apport de sciences fondamentales aux sciences de l'éducation' – 'The contribution of fundamental sciences to educational sciences', EPI, Vol. I, 528 p., Vol. II, 528 p., 1976.

Order address :

Laboratoire de Psycho-Pédagogie
Université de Caen
14032-Caen-Cedex
France

We would like to inform our members that the two volumes of the 6th Congress can now be obtained at the price of $ 25.

INFORMATION CONCERNING MEMBERS OF THE ASSOCIATION

INFORMATIONS CONCERNANT LES MEMBRES DE L'ASSOCIATION

Superannuation

Honoriat

— Professor Dr. M. J. LANGEVELD (Holland) was allowed superannuation in 1971. In his letter of March 6, 1978, he requests to accept his retirement from W.A.E.R. He is willing to continue his collaboration by informing his successors and old students on the activities of W.A.E.R. W.A.E.R. thanks him for the constructive work he has performed in favour of the association and wishes him a happy and fruitful superannuation.

— Le Professeur Dr. M. J. LANGEVELD (Pays-Bas) est admis à l'éméritat depuis 1971. Dans sa lettre du 6 mars 1978 il demande de bien vouloir accepter sa retraite de l'A.M.S.E. Il est prêt à poursuivre sa collaboration en informant ses successeurs et anciens élèves des activités de l'A.M.S.E. L'A.M.S.E. tient à le remercier pour le travail constructif qu'il a bien voulu apporter à l'Association et à lui souhaiter en cette occasion un honorariat heureux et fructueux.

Address change in the memberlist of the W.A.E.R.

Changements d'adresse à la liste des membres de l'A.M.S.E.

Prof. Dr. H. ROUFFANCHE	Université de Paris-Sorbonne 25, Quai André Citroën 75015 Paris France
Prof. Dr. A. GILLE	Laboratoire de Pédagogie Expérimentale 20, voie du Roman Pays B-1348 Louvain-la-Neuve (Belgique)
Prof. T. ISHIDO	3-20-A-303 Naka-arai Tokorozawa 359 Japan
Prof. Dr. A. RAUCH	U.E.R. e.p.s. 4 vallée du Sommerhof 67100 Strasbourg-Koenigshoffen France

Address unknown

Adresse Inconnue

From the following members the 'Communicationes XIV, 2' have been returned :

Des membres suivants les « Communicationes XIV, 2 » nous ont été renvoyées par la poste :

– Mr. M. KIKA MAVUNDA
12, rue Ernest Renan
F-21300 Chenove
France

– Prof. Dr. G. LA ROQUE
Université de Montréal
Case Postale 6123
Montréal P.Q.
Canada

– Prof. Dr. R. OWONO
1bis rue Debrousse
F-75016 Paris
France

If you know the exact address of these members, please let us know.

Pouvons-nous vous demander s'il y a parmi les membres quelqu'un qui puisse nous donner l'adresse exacte de ces membres ?

COMMUNICATIONS BY MEMBERS
COMMUNICATIONS DE COLLEGUES

— Monsieur le Professeur Dr. G. AVANZINI de l'Université Lyon II (France), nous a envoyé les brochures suivantes :
- *Doctorat de 3ème cycle de sciences de l'éducation – pédagogie générale.*
- *Liste des thèses soutenues à l'Université de Lyon – sciences de l'éducation.*
- *Thèses dont la soutenance est déjà programmée.*
- *Bibliographie des publications effectuées en 1977.*
- *Catalogue de publications de la Société A. BINET et TH. SIMON :*

Table des matières :

I – Bulletins : A. BINET et TH. SIMON.
Mesure de l'intelligence.
Enfance inadaptée.
Troubles du langage.
Troubles de l'audition.
Dyslexie, dysorthographie.
Rééducation.
La vision – Moyens audio-visuels.
Lecture.
Écriture.
Orthographe.
Enseignement du français.
Mathématique.
Éducation physique et sportive.
Études psychologiques.
Formation psycho-pédagogique.
Pédagogie générale.

II – Tests :
A. Tests de niveau intellectuel.
B. Tests de lecture.
C. Tests d'orthographie.
D. Tests de vocabulaire.
E. Tests de calcul.
F. Fiches de caractères.

III – Autres publications :
A – Planches de MAISTRE : rééducation du langage.
B – Planches de MAISTRE d'initiation au calcul.
C – Schémas de phonétique de F. FOURGON.
D – Éléments d'acoustique de BERGER.

— Du Professeur Dr. G. MIALARET nous avons pu recevoir le « *Rapport d'activité et de recherche 1976-1977* » du Laboratoire de Psycho-pédagogie de l'Université de Caen (France).

Sommaire :
- Activité générale du Laboratoire.
- Activités des membres du Laboratoire.
- Recherches propres au Laboratoire.
- Soutenance de thèses.
- Compte-rendu des chercheurs.

— Notre collègue RICARDO NASSIF nous a informé d'une succession de charges qu'il a bien voulu accomplir comme consultant de l'UNESCO, notamment en 1977 il a travaillé à ce titre dans le Projet Régional « *Réseau des Systèmes Educatifs pour le Développement dans l'Amérique Centrale et Panama* ». Fin avril il est passé au Nicaragua pour y coordonner un Projet Unesco durant une période de 2 années.

— Prof. Dr. E. VELEMA of the Institute of Educational Sciences, Catholic University Nijmegen (Holland) informed us about the following publication giving lists of doctoral dissertations in education accepted by the Catholic University Nijmegen : *'Dissertaties maatschappijwetenschappen'* (Dissertations Sciences Sociales – Dissertations Social Sciences) by H. P. Hogeweg-de Haart, published every year by B. V. Noord-Hollandse Uitgeversmij, Amsterdam, ± 120 p.

— Le professeur J. VIAL nous a communiqué qu'au cours de l'année 1977 a eu lieu à l'Université de Caen (France) un développement des diplômes et études pédagogiques ouverts aux « praticiens » non étudiants à temps plein, mais permettant l'accès au cours normal.

COMMUNICATIONS BY IMPORTANT AUTHORS WHO SEND THEIR PUBLICATIONS TO THE SECRETARIAT IN ORDER TO DISTRIBUTE THEM AMONG THE COLLEAGUES, OR BY ORGANIZATIONS WORKING ON UNIVERSITY LEVEL OR ON THE HUMAN LEVEL IN THE DOMAIN OF EDUCATION

COMMUNICATIONS D'AUTEURS IMPORTANTS QUI ENVOIENT LEURS PUBLICATIONS AU SECRETARIAT POUR DIFFUSION AUX COLLEGUES, OU D'ORGANISATIONS TRAVAILLANT AU NIVEAU UNIVERSITAIRE OU HUMANITAIRE DANS LE DOMAINE DE L'EDUCATION

— Professor M. CHAZAN of the University College of Swansea (Great Britain) informed us about the following publication : *'Diploma Dissertations and Higher Degree Theses in Education held in the Education Library & Main Library of the University College of Swansea'*. This list of dissertations in education is published in Swansea, 1976, and contains 33 pp. It gives information on the academic years 1959-1975, with supplements for 1976-77.

The Faculty of Education of the University College of Swansea also organises various short courses and conferences related to education in 1978 and 1979.

— « *Les Dossiers du CERFA* »

Cette revue trimestrielle a pour vocation la publication de tout travail consacré à la Formation des Adultes. Celle-ci étant encore très largement expérimentale, l'éditeur B. LAVILLE SAINT-MARTIN et directeur du CERFA, souhaite publier un maximum d'articles provenant d'expériences les plus diverses, qu'elles soient françaises ou non. Les langues de publication sont le français ou l'anglais.

Actuellement cette revue est diffusée à deux mille exemplaires tant en France que dans les pays francophones.

Le CERFA (Centre d'Enseignement et de Recherche en Formation d'Adultes) est l'organisme de formation professionnelle continue de l'Université de Haute Alsace.

La division Recherche a pour désignation « Groupe de Recherche en Education Permanente » et comprend deux laboratoires : un d'économie et un d'analyse des besoins.

Créé en 1969 le CERFA réalisera en 1978 plus de 16.000 heures d'animation correspondant à environ 380.000 heures auditeurs. Pour la moitié, ces activités sont réalisées en entreprises. Enfin depuis deux ans le CERFA effectue des animations techniques pour des pays étrangers.

L'adresse du CERFA : Université du Haut-Rhin
61, rue Albert-Camus
68093 Mulhouse Cedex
France

— The Educational Testing Service, Princeton, New Jersey (U.S.A.) announced us its 3th International Instructional Programs, Summer 1978 :

– *Inte[illegible]tional Program in Educational Testing* (July 10 - August 4, 1978).
Course Chairman : RAYMOND THOMPSON, Senior Examiner.

Now in its 18th year, this program continues to provide basic instruction in the construction of multiple-choice tests. Designed for individuals with extensive responsibility for the development of testing programs, the course can help improve skills in the following areas :

- Identifying test objectives.
- Writing test specifications.
- Constructing essay and objective test items.
- Reviewing and editing items.
- Using item analysis to improve tests.
- Determining statistical characteristics of tests.
- Interpreting test scores for individuals and for groups.
- Using test results in assigning grades.

This program stresses basic skills. It is not suitable for those who have done graduate work or have equivalent experience in the areas of tests and measurement.

– *The Evaluation of Educational Programs* (August 7 - August 25, 1978).
Course Chairman : SAMUEL BALL, Senior Research Psychologist.

This is a new course designed to provide educational researchers and administrators with the skills necessary to plan, execute, and constructively critique evaluations of formal and nonformal educational programs. It is assumed that the program participants will have had experience in planning or administering educational programs or will be currently in or about to assume a position in which they engage in evaluation and research with respect to educational programs. Program evaluation involves skills ranging from goalsetting and developing and choosing assessment instruments to analyzing data and writing reports. The course will attempt to improve the participants' skills in this wide range of topics through lectures, small group discussions, and practical work sessions. A series of evaluation case studies will also be an important component of the program.

Content areas will include :

- Policy research issues.
- Cost effectiveness.
- Models of evaluation.

The focus will be on working through actual program evaluation plans so that participants will experience both the development and execution of a comprehensive evaluation.

– *Applications of Item Response Theory to Practical Testing Problems* (August 7 - August 25, 1978).
Course Chairman : FREDERIC M. LORD, Chairman, Psychometric Research.

Prerequisites : mathematical statistics, classical test theory, some integral calculus.

Now in its fourth year, this three-week course will combine theory and practice. Daily lectures on theory covering the fundamentals of item characteristic curve theory and of the compound binomial error model will be followed by independent study, seminars, group discussion of computer-produced analyses of actual test data, redesigning tests and evaluation of new test designs.

The following topics will be covered :

- Calibrating test items.
- Computing item-, test-, and score-information functions.
- Improving the design of existing homogeneous tests.
- Choice of scoring weights.
- Determining how the relative efficiency of tests or of scoring procedures varies with ability level.
- Equating test scores.
- Designing conventional tests, mastery tests, individualized ('tailored') tests, flexilevel tests, multilevel tests, two-stage tests.
- Estimating examinee 'ability', examinee true score, the frequency distribution of true scores, and the joint distribution of true and observed scores.
- Measuring item bias.

For more information please write to :
Frances M. Ottobre
Director, International Programs
Educational Testing Service
Princeton, New Jersey 08540
U.S.A.

— Professor P. S. FREYBERG of the University of Waikato in Hamilton (New Zealand) has let us know that in the *'University of Waikato Calendar'* (Hamilton, 1977) a list of doctoral dissertations in education or equivalent theses, accepted at the University, is published. The list gives information on the academic year 1975-1976.

— Le Professeur LIMITI GIULIANA de l'Université de Roma (Italie) nous a communiqué que du 25 au 27 mai 1977 le Comité de l'Enseignement Supérieur et de Recherche a organisé le Conseil de l'Europe, l'Université en Italie. Ce Conseil a eu lieu à Frascati.

— The *'Initiative Group for the International Project "SPOC"'* (System of Polyvalent Curricula) the address of which is :
Dr. GUSTAV THÜRO, Fachhochschule Hamburg, FB 8, Lohbrügger Kirchstrasze 65, D-2050 Hamburg 80.
asks persons :
- who can second the carrying out of the project SPOC ;

– who are prepared to join the Initiative Group (i.e. participation in the group's decisions according to the regulations which are to be set up by the organization) ;
– who are prepared to actively participate in the carrying out of the project.

Persons who are interested, will be keep informed on the project's progress.

The following persons are members of the Initiative Group : Dr. DRAGOMIR FILIPOVIĆ, Professor at the University of Beograd ; Dr. VOJISLAV JANKOVIĆ, Professor at the Technical Vocational College of Beograd ; IDA THURO, Diplom-Informatiker at the Society for the Uses of Nuclear Energy, Geesthacht ; Dr. GUSTAV THURO, Lecturer at the Fachhochschule of Hamburg ; GERHARD WEISZHAAR, Graduate Engineer, Lecturer at the Fachhochschule of Hamburg ; Dr. MILORAD D. ZAKIĆ, Professor at the Universities of Beograd and Banja Luka.

— For ten years Jossey-Bass has served the higher education community through publication of hundreds of scholarly books and periodicals. Today, they are pleased to announce publication of the most useful single work the company has offered – *The International Encyclopedia of Higher Education,* edited by ASA S. KNOWLES.

The *Encyclopedia* has been designed to be the most comprehensive and authoritative source of information ever published on higher education. It took five years to complete, involved 2000 persons throughout the world, and was produced in the United States at a cost of $ 1,250,000. This unique reference work is presented in ten volumes, with more than 3,000,000 words on almost 6000 pages, including 600 pages of indexes.

It is the only self-contained source of the history, present state, and future prospects of higher education worldwide.

It is a readily available source not only of facts about higher education but also of informative articles on current administrative practices and policies.

A descriptive brochure which details the contents, scope and format of *the International Encyclopedia of Higher Education* was sent to the General Secretariat and can be obtained by the Publisher, Allen Jossey-Bass.

— Dr. DANIEL G. MULCAHY of the University College Cork (Ireland) sent us the following information :
– The National University of Ireland published a list of doctoral dissertations in education accepted by the University College Cork, under the title *'Calendar'* (Dublin, 1977). The list gives information on the years 1975 and 1976, and occurs on pp. 323-329.
– A course on education for undergraduate degree (BA) was accepted in principle for the year 1977 at the University College Cork.

— NURMINEN JUKKA, Assistant at the Institute of Education, University of Turku, Finland, informed us that a list of doctoral dissertations in education accepted by the University of Turku is published in the journal *'Kasvatus* –

Suomen kasvatustieteellinen aikakauskirja / The Finnish Journal of Education under the title *'Kasvatustieteellisten laitosten julkaisut'*. This journal is edited by the Institute of Educational Research and published in Jyvaskyla (Finland). The list appears each year in issue 5 or 6.

— Dr. J. D. PURDY, Dept of History & Comparative Education of the University of Western Ontario, London (Canada) informed us that the doctoral dissertations in education accepted by the University are published annually in the *'Register of Dissertations'*, Ottawa, Ontario.

He also let us know that during 1978-1979 the following associations will hold their meeting at the University of Western Ontario :
- Canadian Society for the Study of Education
- Canadian Association for Foundations in Education
- Canadian Association of Professors of Education
- Canadian and International Education Association
- Canadian Historical Society.

— FRANK QUINLAN from the Information Services of the Ontario Institute for Studies in Education, Toronto (Canada) informed us about the fact that the IIP'78 was held in Canada, i.e. the Fourth International Intervisitation Program in Educational Administration, May 5-25, 1978.

— Dr. BIKKAR S. RANDHAWA, Research Resources Centre, College of Education of the University of Saskatchewan, Saskatoon (Canada) informed us on the existence of lists of Faculty research and Graduate Theses in the various stages of completion, of which he is the editor, i.e. *'IRR-77-1'*.

The latest issue was published in 1977 and contains 51 pp. This list gives information on the academic year 1976-1977 and contains a summary of the theses accepted.

— APORCAE (the Association of Principal Officers of Regional Colleges of Advanced Education) announces the forthcoming publication of the first in an occasional series entitled *'The Regional College'*. This first monograph, entitled *'A Directory'*, will provide a comprehensive description (generally, over the period 1970-1976) of the educational resources of nine Australian regional colleges of advanced education :
Ballarat College of Advanced Education
Bendigo College of Advanced Education
Capricornia Institute of Advanced Education
Darling Downs Institute of Advanced Education
Gippsland Institute of Advanced Education
Goulburn College of Advanced Education
Mitchell College of Advanced Education
Northern Rivers College of Advanced Education
Warrnambool Institute of Advanced Education.

In no other single publication will be found such a complete description of these or any other grouping of Australian colleges of advanced education.

The prepublication estimate sets this first report at 800 pages, on an A4 international page size. $A20.00 per copy (posted : $A22.50 within Australia or $A25.00 overseas).

To order your copy/copies of *'The Regional College : A Directory'* please write, or send your order to

APORCAE Regional College Project,
C/-Research Unit,
Mitchell College of Advanced Education,
BATHURST, N.S.W. 2795
AUSTRALIA.

— In March 1978 a new abstract journal on *'Rural Extension Education & Training'* was edited. It provides up-to-date information on :

- Extension, Education & Training : Theory, Policy, Planning.
- Education & Training : International, national & regional studies, primary, secondary, tertiary and non-formal education, curriculum development and teaching materials.
- Extension : Research and extension relationships, personnel and career structure, methods & techniques, adoption and attitudes, case studies (agriculture, health and welfare, etc.).

'Rural extension education and training abstracts' – issued quarterly – contains over 2.000 abstracts per year from significant current world literature in many different languages. It is compiled by the Commonwealth Bureau of Agricultural Economics (CBAE) in consultation with the International Association of Agricultural Economists, the International Rural Sociology Association, the International Association of Agricultural Librarians and documentalists. Quarterly and annual author and subject indexes are provided. It is available for computer search through Lockheed's DATALOG system. It is essential reading for all who wish to keep abreast of information on Rural Extension, Education and Training.

Annual Subscription (Post Free) : $ 60.00 (or equivalent in sterling) ; Member country rate : £ 32.00.

Subscriptions should be sent to :
Commonwealth Agricultural Bureau
Central Sales
Farnham House
Farnham Royal
Slough SL2 3BN
England

Other services available :

- Main Services : *'Commonwealth Agricultural Bureaux (CAB) abstract journals'* also covers the whole field of Agriculture and Applied Biology with a circulation of 30.000 copies in 150 countries.

– Services to Development Specialists, Agricultural Economists and Rural Sociologists : *'World Agricultural Economics and Rural Sociology Abstracts'* (WAERSA) continues to cover all main economic and social aspects of agricultural policy, marketing and trade, and farm production.
– *'Rural Development Abstracts'* is another new journal from CBAE from March 1978.
– *'Review Publications and Annotated Bibliographies'* are compiled by CBAE on many special and topical aspects of agricultural economics, farm management, rural economic and social development and for specific geographical areas.
– Enquiries on agricultural economics and rural development literature will be answered. Write to :
Director
Commonwealth Bureau of Agricultural Economics
Dartington House
Little Clarendon Street
Oxford OX1 2HH
England.

— Dr. J. E. STEPHENS, Department of Educational Studies, Hull University (England) has let us know that doctoral dissertations in education accepted by the Hull University are published in the following publication :
– The Librarian, Institute of Education Library : *'List of theses and dissertations in education in the University of Hull'*.
Place of publication : Hull University (typescript) ;
Year of publication : periodically (up-dated every 2 or 3 years) ;
Number of pages : approx. 40 ;
The list gives information up to the academic year 1975-1976 and has an author/subject arrangement (cf. British Education Index).

— From the United Nations, i.e. from SOL NAHON, Officer-in-Charge, Branch for the Advancement of Women/CSDHA, we received a memorandum dated 27.2.78 sent to non-governmental organizations in consultative status with ECOSOC about the 27th session – Commission on the Status of Women. This Commission was held on 20 March 1978. Some of the items on the agenda were :
1) International instruments and standards relating to the status of women : implementation of the Declaration on the Elimination of Discrimination against Women ;
2) Developments relating to the programme for the United Nations Decade for Women ;
3) Protection of women and children in emergency and armed conflict in the struggle for peace, self-determination, national liberation and independance ;
4) The effects of *apartheid* on the status of women.

— Une liste de thèses de doctorat en sciences pédagogiques acceptées à l'Université de Valencia (Espagne) est publiée dans
– le « *Bulletin du Conseil Mondial des Sociétés d'Education Comparée* » édité par le B.I.E. à Genève (Suisse) dans le numéro 4 de 1977, pp. 16 ; et dans
– le nº 40 de 1977 de *'Perspectivas Pedagogicas'* édité par l'Instituto de Pedagogia Comparada, Barcelona (Espagne) pp. 526-528. Cette information nous est donnée par Dra. Dña. ISABEL G. ZULUAGA, directeur du Departamento de Educación Comparada e Historia de la Educación.

INFORMATION CONCERNING CONGRESSES, COLLOQUIES OR OTHER SCIENTIFIC MEETINGS IN THE FIELD OF RESEARCH IN THE UNIVERSITY TEACHING OF EDUCATIONIAL SCIENCES

INFORMATIONS AU SUJET DE CONGRÈS, COLLOQUES OU AUTRES RENCONTRES D'ORDRE SCIENTIFIQUE AU NIVEAU DE LA RECHERCHE OU DE L'ENSEIGNEMENT UNIVERSITAIRE DES SCIENCES DE L'ÉDUCATION

— The World Government of the Age of Enlightenment, Seelisberg (Switzerland) holds its *'World Assembly on Ideal Education'* (28 February - 2 March 1978).

Having celebrated Invincibility Week throughout the world, January 12th to 18th, 1978, the World Government of the Age of Enlightenment has grown increasingly certain of its ability to structure invincibility for every nation and to free mankind from fear. In order to hasten the achievement of this goal they have arranged to present each government and the leaders of society in each nation with a plan of action to bless their nation with the gift of invincibility. For this purpose, between February 25th and March 17th, 1978, a series of seven World Assemblies for different areas of society took place at the International Capital of the Age of Enlightenment. The second of these World Assemblies was entitled : 'The Importance of Ideal Education in Making the Nation Invincible : A Formula. The role of students and teachers in developing the full potential of individual consciousness and thereby developing the full potential of national consciousness.'

We also received the following publications :

- *'World Assemblies for Invincibility to Every Nation : Introduction and Themes of the Seven World Assemblies'* ;
- *'World Government News'*, February Edition ;
- *'Inauguration of a Global Initiative for Invincibility to Every Nation'*.

— Du 6 au 10 mars 1978 a eu lieu à l'Institut de Recherche d'Informatique et d'Automatique (IRIA) en France le Séminaire « *Enseignement assisté par ordinateur* ». Ce séminaire était adressé principalement aux enseignants et responsables de formation et avait présenté l'EAO à partir de ressources informatiques actuelles. Les aspects pédagogiques étaient discutés plus particulièrement autour d'une table ronde finale.

— The Finnish Central Sports Federation organizes an international Congress on *'Physical Activity in Childhood'* on June 4-6, 1979. The congress is intended for coaches, physical educators, nursery school teachers and sport physicians and for persons who in their own work or interests are engaged with the problems on sports in childhood. It will take place in Dipoli, Espoo, Finland. The languages will be English and Finnish.

The main themes of the congress are :
The physical development of a human being
- physical development
- social and psychical aspects of the physical development
- influences of home and environment on child's physical development
- optimal ages of developing physical abilities
- the development of coordinative qualifications of children.

Teaching, education and training
- pedagogical and educational problems in physical culture for children
- estimation of physical skills-search after talents
- child in programmed training
- there will be possibilities in frames of smaller groups to get familiar with special problems on physical education in nurseries, at schools, in trainings of children, and with research on physical culture of children.

The influences of physical culture on growth and development
- disadvantages of sports in growing age
- handicapped child and physical culture
- advantages and disadvantages of competitive sport of children.

For more information please write to : Suomen Valtakunnan Urheiluliitto, Urheiluosasto, Topeliuksenkatu 41a, 00250 Helsinki 25, Finland.

RECEIVED PUBLICATIONS

PUBLICATIONS RECUES

Revues

Reviews

– *British Journal of Physical Education.* London, The Physical Education Association of Great Britain and Northern Ireland,
Vol. 9, Nr. 1, January 1978
Vol. 9, Nr. 2, March 1978.
– *Bulletin – Newsletter.* Genève, World Council of Comparative Education Societies – Conseil Mondial des Sociétés d'Éducation Comparée, Vol. V, No. 4, décember 1977.
– *CESE périodique – newsletter.* Bruxelles, Comparative Education Society Europe, Nr. 1.
– *Conventions in Belgium – Congrès en Belgique – Congressen in België.* Bruxelles, Secrétariat de la Centrale Belge des Congrès, 16e année, N° 1, 1978.
– *Documentación : sistema educativo de UU.LL.* Madrid, Instituto de Tecnicas Educativas – Servicio de Universidades Laborales, Separata n° 2. Diciembre 1977 'Programacion de las areas de formacion humana (7° de E.G.B.)'.
– *Documents 1968-1977.* Strasbourg, Council of Europe – Conseil de l'Europe, Education & Culture, Documentation Centre for Education in Europe ; – Centre de Documentation pour l'Éducation en Europe ; DECS/Doc (78) 1 B.I.
– *Eudised R & D Bulletin.* Strasbourg ; Council of Europe – Conseil de l'Europe, Documentation Centre for Education in Europe – Centre de Documentation pour l'Éducation en Europe :
No. 1, 1976
No. 2, 1976
No. 3, 1976.
– *IIE – Revista del Instituto de Investigaciones Educativas.* Buenos Aires, Instituto de Investigaciones Educativas,
Año 3, No 14 Noviembre de 1977
Año 4, No 15, Marzo de 1978.
– *IUCW Open letter – UIPE Lettre ouverte.* Genève, International Union for Child Welfare – Union Internationale de Protection de l'Enfance, No. 24, December/Décembre 1977.
– *Les dossiers de CERFA.* Mulhouse, Université du Haut-Rhin, No. 5, Juillet-Août-Septembre 1977.
– *Newsletter.* s.l., Center for International Higher Education Documentation, Vol. 1, No. 1, January 30, 1978.
– *Newsletter,* New York, World Council for Curriculum and Instruction, Vol. 9, Nr. 1, Winter 1978.
– *Nitido.* Caracas, Universidad Central de Venezuela – Direccion de Cultura, N. 13, Enero 1978.

– *Onderwysnuusflitse – Educational News Flashes.* Pretoria, Transvaal Education Department, third term 1977.
– *Pädagogik.* Berlin, Akademie der pädagogischen Wissenschaften der DDR, 32. Jahrgang, Nr. 12, 1977
33. Jahrgang, Nr. 1, 1978.
– *RIHED News.* Singapore, Regional Institute of Higher Education and Development, Vol. 4, No. 3, September-December 1977.
– *SIESC Newsletter.* Taipei, Society for International Education, Science and Culture, Nr. 22, September-October 1977.
– *Société Alfred Binet & Théodore Simon. Art et Techniques pédagogiques.* Lyon, Société Alfred Binet et Théodore Simon, 78e année, Numéro 560, I-1978 « Techniques Freinet, Techniques de groupe, Techniques audio-visuelles ».
– *Unesco Education des Adultes – Notes d'information.* Paris, Unesco – Section de l'éducation des adultes – Division des structures, des contenus, des méthodes et des techniques de l'éducation, N° 3-4, 1977.
– *World Goodwill Newsletter.* A quarterly bulletin combining comment and information on world affairs with details of the work and programme of World Goodwill. London, Geneva, New York ; World Goodwill, Bonne Volonté Mondiale ; January, February, March 1978.

Livres
Books

– *International Congress on Sports Injuries.* Espoo, August 11th to 13th, 1977. Proceedings. Compiled by ERKKI OIKARINEN. S.l., Finnish Central Sports Federation, s.d., 4°, 205 p.

Des Nations Unies
From the United Nations

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